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A CLINICAL LECTURE,

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CHOLERA.

Gentlemen: The disease which I am about to discuss is called by various names according to its severity and to the place where it occurs: Cholera nostra, cholera Asiatica, cholera maligna, cholera asphyxiaus, etc. The last name has a particular significance in connection with certain facts which I desire to bring to your notice in the course of this lecture. I must not waste any time in preliminary remarks, for I have a great deal of ground to get over. Cholera is always divided into three stages; first the premonitory diarrhea, without doubt an integral part of the disease, then a stage of collapse, the so-called algide stage, and finally the period of reaction either with or without consecutive fever. The main symptoms of choleraic collapse are coldness and blueness of the skin, cold sweats, great diminution of volume and force, and even complete extinction, of pulse, short, dry cough, sense of oppression, peculiar loss of voice, which becomes distant and shrill—the choleraic voice, as it is called—and precordial pain.

Cholera has prevailed in India from prehistoric times, but in England only since 1831-2. Before its appearance in this country the use of opium to relieve the diarrhea was unknown. Indian practitioners sometimes gave it to relieve the painful cramps, but they often prescribed purgatives at the same time. Certain practitioners, under the impression that the worst symptoms of collapse were due to loss of fluid, adopted the bold plan of injecting saline solutions into the veins. The symptoms of collapse disappeared in many instances as if by magic, but only to recur a short time after, and most of the patients so treated died. The effect of the injections in removing the symptoms of collapse was held to prove the correctness of the inference on which they were based, but on very erroneous grounds, as I shall show later on.

I first saw cases of cholera in 1849, and I want to show the successive steps by which I arrived at my present opinion. The first case I had to treat in 1849 was the wife of one of the porters of the hospital. She had a mild attack of choleraic diarrhea and I gave her 5 grs. of pulv. ipecac. co., but, from the time the purging ceased, the woman went into a state of collapse and died. This made a great impression upon me at the time. I only did what I had been taught to do, yet it seemed to me a most disastrous result. I could not help thinking that the theory was wrong and the practice injurious. In a large number of cases which I saw in the hospital, brandy and opium was the approved treatment, and the mortality was fearful. In despair, this treatment was abandoned and salt and water given instead, with the idea in view of making up the loss of the saline constituents of the blood. No stimulants were given and no opium. The patients went on purging profusely, yet nearly three-quarters of the cases recovered. You thus see the result of opposite methods of treatment.

In 1854 I was Junior Assistant Physician. After the first few cases in the wards, all of which proved fatal, I was left in sole charge of the hospital. I confess I undertook the task with some apprehension, and the question of treatment caused me a good deal of anxious thought. I knew there were certain plans of treatment, the reverse of the opium treatment —the calomel treatment, for instance—and, as far as one could judge, the results were very successful. Then there was the plan of injecting saline solutions into the veins, to which I have already alluded. It occurred to me about that time that the purging of cholera was, perhaps, like the rash in measles, small-pox, etc., viz., a means of getting rid of excrementitious matter. This was the line of thought which led me to give castor oil. My first cases recovered, though the discharges were profuse. That seemed contrary to the notion that collapse was due to loss of fluid. Twelve out of my first fifteen cases recovered. I published the cases, and for a time was looked upon as a dangerous lunatic. My friends, forseeing the storm, had endeavored to dissuade me from doing so, but, strong in my belief of the correctness of my views, I published them. I set to work and read up all I could find of reports on cholera by Indian practitioners. I very soon found out from various sources that in the worst class of cases there was no relation between the amount of collapse and the amount of the discharges. Patients with profuse diarrhea did well and came round, while others with little or no discharge became profoundly collapsed.

The rapidity with which patients rally from the collapse under favorable circumstances is inconsistent with the idea that it is due to important changes in the blood. When a patient becomes collapsed from simple diarrhea, his recovery is very gradual, whereas the recovery from choleraic collapse, when it takes place, is as rapid as in suspended animation from drowning, etc. Another remarkable feature is the blueness of the body surface. The patient is often almost black, showing the intense congestion of the venous system, and not in any sense due to the purging. Then, too, the patient, though pulseless, is capable of considerable physical exertion. Men whose weakness, were the condition of the pulse due to any other cause, would be such as to be unable even to turn in bed, can get up aud walk across the ward. Almost without exception, practitioners with experience of cholera before fifty years ago, recorded that although alcoholic stimulants could scarcely be withheld under the circumstances, yet it was the universal experience that they were not only useless but dangerous.

Another remarkable treatment was that by venesection. Many Indian practitioners record cases in which the effect was almost miraculous. Now it is evident that to bleed a patient who had been purged to a state of pulselessness, would be madness, I shall show you directly that the relief from venesection is due to the lessening of the tension on the right side of the heart. At that time I came across a very valuable book by Dr. Edward Parkes, published in 1847. From him I learned this very important fact that in all cases of death during collapse, when the chest is opened, the right side of the heart, pulmonary artery and systemic veins were filled with blood, while the systemic arteries were empty, the same condition, in fact, as in patients who had died from apnea, or from the inhalation of nitrous oxide. He goes on to say that there is evidently some impediment to the passage of the blood through the lungs, and made the nearest approach to a true explanation when he says that the lungs contract and bar the entry of the blood. Although seven years after the demonstration of the muscularity of the arterioles, it was before the functions of the muscular layer had been shown. The only possible explanation is that the poisoned blood which excites the diarrhea, also excites contraction of the vessels of the lungs and finally arrests the flow of blood entirely. This explains all the symptoms of pulselessness, the rapid collapse, and equally rapid recovery, the blueness, coldness, etc.

Now we come to the fact of which I have already spoken, viz: the effect of hot saline injections into the veins. No explanation would be satisfactory which would not explain the effect of these hot injections. We are told that the hotter the injection the better the results, and the best results were obtained at a temperature of from 106° to 120° F. Even a temperature of below 110° was said to be injurious. The explanation is this: that the warmth of this fluid relaxes the tension of the pulmonary arterioles. It is not the fluid *per se* that does the good, but the warmth; of course the symptoms return, since this cause is still present. I thought it was a great step in advance when I hit upon this explanation. There is, however, one other explanation of the effect of these injections, that by diluting the poison in the blood, its effect is mitigated. Dr. Parkes injected several persons, with very poor results, but the temperature of his injections did not exceed 100° F. You are now in a position to understand the rapidity with which the attack comes on and passes off.

Another very important point to remember, is the suppression of bile and urine. An explanation of the suppression of the bile secretion is afforded by our knowledge that bile is a product of oxidation. We know that during collapse there is less air inhaled, less oxygen is consumed, and there is a great diminution in the amount of carbonic acid given off, corresponding to the diminished supply of urine. I do not suppose that, in any case, absolute suppression of bile and urine takes place, but it is clear that during the collapsed stage the amount of blood passing through the lungs is very much reduced—say to a quarter, or even a sixth. With this there must be a corresponding diminution in the oxygen introduced into the system, and all oxidized products must suffer. Consider the condition of these organs at birth. They have no functions to perform—the lungs especially, for there is a certain amount of altered bile in the shape of meconium and a little urine, but both are small in amount. The instant respiration begins, the functions of the liver and kidneys also begins, these necessarily going on simultaneously; the blood passes through the lungs, oxygenation begins, and then the vital processes take a serious start. During the collapse of cholera, the circulation in the lungs is reduced almost to the level of the fetus, and therefore the same processes which are latent in the fetus become dormant in the cholera patient. It is not the same with all secretions. I myself have seen a nursing woman get collapsed, yet the secretion of milk went on as usual. Many men have endeavored to explain the non-excretion of urine by the thickness of the blood, but the continued secretion of milk is a direct contradiction of that theory.

Another series of facts, confirmatory of these theories, are to be found in the record of certain cases, in which a mechanical plug in the pulmonary artery has given rise to all the symptoms of cholera collapse. I had such a case in my wards some time since, and the resemblance was striking. A very remarkable case of the kind has been published by Dr. Alfred Carpenter, who observes that "the only symptoms wanted to make up a characteristic case of cholera were the alvine discharges." The symptoms were coldness, cold sweats, quick breathing, sinking of the eyes, diminution of the voice, pain in chest and epigastrium, almost complete suppression of urine, etc. *Post-mortem*, the right side of the heart was found very distended, and the pulmonary artery was found to be blocked by a large clot. Of course there was no purging and no cramps, but all the other symptoms were present, including the suppression of bile and urine. Several such cases are on record. A very interesting experiment has been performed on a rabbit, anesthetized with chloroform, and the pericardium exposed and injected with a solution of muscarin. Immediately after the lung became pale and the right side of the heart greatly distended. A little atropine was injected, and in a short time all the symptoms had passed away. This is a pretty demonstration, and shows what occurs in an animal as a consequence of apnea or breathing nitrous oxide, as well as being analogous to the condition in the algide stage of cholera.

Well, now, as to the alleged thickening of the blood. It was generally thought that the loss of fluid explained this thickening and its higher specific gravity, and this gave rise to the idea of injecting saline solutions. In one case, in which I injected warm fluid with but little effect, we found a clot in the pulmonary artery, which prevented the blood passing, so that the absence of effect was easily accounted for. It is a noteworthy fact that this thickening never occurs during the diarrhea stage, however profuse the evacuations. The explanation of this curious fact is that four-fifths of the tissues of the body are made up of water, and as soon as the fluid is withdrawn from the blood vessels, the water of the tissues is drawn upon to fill its place. This process is well exemplified by the fact that the blood drawn at the end of the operation of venesection has a lower specific gravity than that first drawn, due to the passage of water into the vessels.

Why, then, does the fluid thicken when collapse comes on? I must ask you to concede me the fact that during collapse there is a block of the pulmonary circulation—not an absolute block, but still very serious.

What happens then? In the first place there is a great diminution of oxidation in consequence of oxygen not being admitted, and the result of this deficiency is that the coloring matters of bile and urine, due to the disintegration of the blood corpuscles, is no longer produced in any quantity. Consequently there is an accumulation of unoxidized material. When the block occurs, a certain quantity of blood escapes through the walls of the distended veins and systemic capillaries in consequence of the increased pressure backward from the right heart. Besides that, there is probably a filtering action through the contracted arterioles which allows the thinner parts of the blood to escape while retaining the thicker portions. It has been proved by experiment that on contracting the arterioles by stimulating the spinal cord, serum passed out of the vessels, the corpuscles being retained. You are aware, I suppose, that blood thickening occurs in all cases in which there is interference with respiration. I have even seen a big clot in the jugular vein in consequence of asphyxia, due to diphtheria with impeded respiration. In such cases the patient will die, even after tracheotomy has been performed.

When collapse has been very prolonged, there is often what is called consecutive fever, the temperature rises, and there is suppression of urine, etc. This is due to the three changes which the blood undergoes during the collapsed stage; imperfect oxidation, now made up for by increased oxidation, with consequent high temperature, of the materials which have been accumulated. When oxygen is readmitted there is a general flare up, so to speak. The suppression of urine may be due to the throwing into the circulation of a very large amount of effete material which has accumulated. It is a remarkable fact that, notwithstanding the suppression of urine during the collapse, there is no accumulation of urea in the blood, but when this occurs in the reaction, you will find urea present in abundance. This condition is very often fatal, and the patient, having passed through the crisis of collapse, dies of subsequent reaction. In patients dying during collapse, the lungs are very anemic, the blood not reaching the capillaries. It is often said that this is because the blood is so thick that it cannot penetrate; but it is really just the opposite. The patients become collapsed because there is no blood in the systemic circulation, and the collapse of the lungs is very marked in cholera, and if you weigh the lungs you will find them very light. You know that the bronchial vessels belong to the systemic system, coming as they do from the aorta. It has often been observed that although the lungs are collapsed and empty of blood and light, they are dark in color and cyanosed. This is due simply to the fact that the bronchial veins are part of the systemic veins, and are therefore congested in common with the others.

To resume what I have said, there can be no doubt that cholera is due to a poison, which may be inhaled or swallowed. One fact that has been made out is, that, in a very large proportion of cases, water is the vehicle. Many an epidemic in India has been traced to the contamination of wells from which the natives drink. The incident of the pump in Golden Square, during one of our own epidemics, elucidated by Dr. Snow, is another good example. The dejections of a cholera patient, having found their way into the well, killed 600 people in about ten days. The fact that some people drank of the water without contracting the disease, of course proves nothing against it. The poison is thrown off by the intestines. It is most powerful after a lapse of time when decomposition has set in, but it is destroyed at a still further stage of decomposition. Dr. Charles Macnamara tried this experiment on seventeen men, giving them contaminated water to drink, and five of them died, the rest escaping. The poison, when drunk, is absorbed; it is not a mere local action and there never was a more absurd theory than that which ascribes the diarrhea to denudation of the intestinal villi and consequent transudation of the contents of the exposed blood vessels, especially when we bear in mind that the denudation is a *post-mortem* phenomenon.

In a certain workhouse, moreover, it was noticed that the persons who used the privies suffered severely, while the invalids, confined to the wards, escaped; so it is evidently possible to inhale the poison. Again, the fetus *in utero* often gets infected, and several instances are on record of children born with undoubted symptoms of cholera. Another proof of the blood infection is that, before the intestinal symptoms occur, there are certain symptoms of a constitutional character, malaise, lassitude, etc., analogous to those observed before in other constitutional diseases due to blood poisoning.

A CASE OF LAPAROTOMY FOR KNIFE WOUND OF THE ABDOMEN WITH PROTRUSION OF THE BOWEL.

By T. W. HUNTINGTON, B. A., M. D., Surgeon Southern Pacific Co's Hospital, Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

H. D. H——, aged 24, a horse trainer, received a knife wound in the abdomen about 11 o'clock P. M. of July 18, 1888. An hour and a half later I found a penetrating wound of the abdomen two inches long, clean cut, running transversely. The centre of the wound was located at a point one inch below and two inches to the left of the umbilicus. From this opening eight or ten inches of small intestine protruded. The patient was bleeding freely and the underlying cavity seemed flooded with blood. The exposed gut was at once restored to the cavity. A careful search was made for bleeding vessels in the abdominal walls, but none were found. The wound was then closed temporarily by a superficial suture and an improvised dressing adjusted.

An hour and a half later (three hours after the injury) the patient was etherized, and the abdomen opened by an incision four and one-half inches in length in the median line; Drs. Jas. H. Parkinson and W. A. Briggs, of this city, assisting.

Through this opening the entire gut was carefully searched for a possible puncture, but none was found. The abdominal cavity was filled with fluid blood and clots, some of which were adherent to the viscera and peritoneum. The cavity was then thoroughly cleansed and sponged out with a dilute sublimate solution, the intestines meanwhile being enveloped in warm towels. During the operation the hemorrhage suddenly ceased, and as the patient seemed to be sinking rapidly the intestines were replaced, and the wounds closed hastily.

The amount of blood removed from the cavity was roughly estimated at from two to three pints. Its origin was not accurately determined owing in part to the fact that the only light available was that from a coal oil lamp, and in part to the haste necessitated by the patient's exhausted condition. My belief, however, is that it proceeded from a small punctured wound which I located below and near the left kidney. The operation lasted one hour and twenty-five minutes. At the beginning the patient's pulse was 90, full and strong, though there was evidence of profound shock. At the close the pulse was 138, small, threadlike and almost imperceptible; extremities cold and clammy, and the general outlook unpromising. The usual measures for restoration were adopted, and at 8 A. M. reaction had taken place and the patient was decidedly comfortable.

The subsequent history of the case was that ot rapid progress toward perfect recovery. The highest temperature, 101.5, was recorded on the evening of the first day. On the morning of the second day both pulse and temperature were normal. Both the operative and original wounds closed by first intention. The latter, however, reopened at the end of the first week and a small amount ot dark fluid discharged through a narrow sinus.

The patient was wholly nourished by enemas, composed of milk, whisky and Reed & Carnrick's liquid peptonoids for the first five days, after which time a small amount of the same materials were administered by the mouth. The value of the liquid peptonoids. as a means of rectal alimentation, was highly appreciated by the patient, he appearing fully conscious of the benefit derived therefrom. The bowels were moved for the first time at the end of ten days after a large enema. At the expiration of fifteen days the patient was well and able to be removed from his room to a neighboring house.

A point of interest in this case, as in others of its class, is worthy of comment, viz: that in returning the intestines to the abdominal cavity, after completion of the preceding steps of the operation, no special order need be observed. The task is a difficult one at best. The object to be attained is to replace them as rapidly as possible, and in so doing, little if any attention can be paid to maintaining normal relations.

In the management of a penetrating abdominal wound, from whatever cause, the surgeon is confronted by one of the gravest of all responsibilities. What course shall be pursued, is a most formidable problem. Within the recollection of the youngest of us there were none to question that the establishment of direct communication between the peritoneal cavity and the outside world for surgical purposes, either by a new incision or by enlarging the original wound, materially enhanced the patient's risk. Referring to the disasters which befel the pioneers in ovariotomy, Professor Charles D. Meigs was led to exclaim, "*I detest abdominal surgery.*" It is safe to say that a similar feeling prevailed almost universally toward the operative treatment of abdominal wounds. Very recently it has been shown that there is the greatest immunity from such a step, providing due regard be had for the rules of antiseptic surgery. This fact has settled many doubts and the majority now believe that the patient's greatest safety lies in thorough exploration, removal of foreign matter, ligation of bleeding vessels and repair of wounded viscera when necessary.

In the August number of *Annals of Surgery*, Dr. H. C. Dalton says that he has collected from all sources sixty-eight cases of abdominal wounds treated by the operative method of which 39.8 per cent. recovered. The same author states that under the "do-nothing" policy less than eight per cent. recovered. These statistics, in conjunction with the experience of occasional operators, not only make plain the duty of the surgeon, but render him in a measure culpable, provided his patient die without the benefit of an exploratory operation.

In engaging in this department of surgery the attendant should fully acquaint himself with the difficulties and embarrassments which he will almost certainly encounter. It is here that in foresight and caution, the watchwords of the fearless, will be found an ally without which success is the merest accident. Preparations are to be made for every possible emergency, for at a critical period a fortunate result may be rendered improbable by the omission from one's equipment of some essential article. Competency on the part of assistants is of the highest importance; for, when surrounded by a corps of skilful, experienced aids, the mind of the operator is relieved of all care concerning minor details and he is enabled to proceed more rapidly and systematically than would otherwise be possible. Having once entered upon the task of exploring the abdominal cavity, in search of a lesion, the work should be prosecuted with the utmost thoroughness. No portion of the viscera can with safety be permitted to escape inspection, and in the completion of the task, as regards toilet of the cavity and omentum, necessary steps must not be omitted or too greatly abbreviated, even though the patient's condition become precarious.

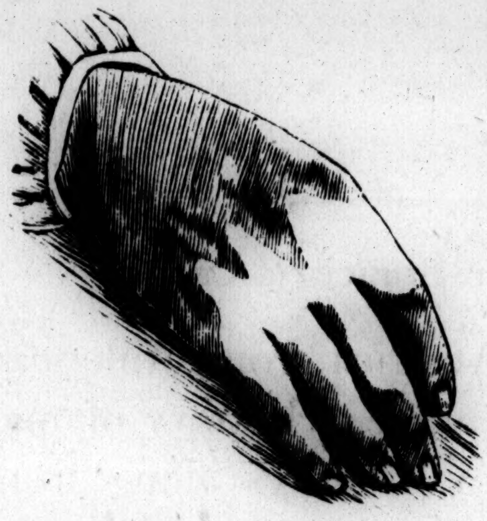
426½ J street.

LEUCODERMA.

By D. W. MONTGOMERY, M. D., San Francisco, Cal.

Miss R——, æt. 22, single, born in America from American parents. Latterly has been occupied as a nurse. History of maternal grandparents good. Her mother was always ailing from some obscure internal trouble. An ambrotype, taken when she was married, at 27 years of age, shows white patches around the mouth and on the forehead. She also had pigmented patches on the face, so that people thought they were "liver spots." She died from Bright's Disease, and at the time of her death her entire face was a "dead white" color. Miss R.'s father was a minister and was always of a delicate constitution. He died aged 40 from "a chill" (malarial?). Her brother had a highly nervous temperament, and died aged thirty of consumption, complicated with Bright's Disease. Her sister is a consumptive. The patient herself has always been sickly from a child, suffering like the other members of the family from weak lungs and a weak nervous system. Neither her brother nor her sisters have ever had any white patches on the skin. The white patches appeared first when she was sixteen years of age, and extended rapidly during the first few years, but for the last two years the old patches have not increased in size. A new patch is now appearing on the ring finger of the left hand. Had a small white patch on the back of the neck which has disappeared. She used to fancy she had white patches around her mouth.

Present condition: Brunette, *i. e.* dark hair and dark eyes, with a clear white skin; general health good, but nervous, and when a little excited stammers. The white patches are confined to the dorsal surfaces on both hands; there are also some white patches on the hips. The largest patches are on the radial side of the dorsal surface of the right hand. Here there seems to be some attempt at arrangement—there are three triangular areas, the apices lying between the metacarpal bones and pointing toward the wrist, the bases of these triangles are not well defined, but run off irregularly into the white patches on the dorsal surfaces of the fingers. This is clearly shown in the accompanying engraving. The new patch on the dorsum of the ring finger of the left hand seems to be advancing downwards by a well marked rounded margin. All the other patches have irregular, well-defined borders. There is no deeply pigmented ring around any of the patches—the skin appearing perfectly normal up to the well defined edge. On the dorsum of the left index finger a group of about eighteen flat warts stand in a leucodermic patch—these warts retain their pigment. She never has noticed any subjective symptoms in the nerves distributed to the skin bearing the leucodermic patches. The hairs on the white patches are also devoid of pigment. There is no alteration of the skin in any way except in color.



There are some leucodermic patches on the hips which show the same irregular well defined margins as on the hands—these patches do not vary with the seasons, while those on the hands become decidedly more accentuated in the spring, which she thinks is owing to the tanning of the hands at this season. The points of special interest in this case are the peculiar triangular shape of the patches on the right hand, giving the appearance of following the distribution of the nerves. The clearly hereditary character of the disease, or at least its undoubted occurrence in both mother and daughter, and the retention of pigment in the warts—although the warts are clearly situated in a leucodermic patch.

In regard to the etiology of this disease, most authorities are inclined to look upon it as being a trophic disturbance of the nerves, and in this case the patient certainly was very nervous—there was her own statement as to this, and also her deportment and her stammering when excited. Dr. McCall Anderson, in his work on diseases of the skin, mentions a curious case occurring after a traumatism.

The diagnosis is not difficult. It must be diagnosed from partial congenital vitiligo or albinismus and a form of leprosy. Partial albinismus almost always occurs in the black race; is congenital and is stationary; whereas leucoderma occurs in all races, is acquired and has a tendency to progress. The diagnosis from leprosy has only to be remembered to be made. In leprosy there is always some deterioration of the general health. The white spots have a greyish tint; there is often anesthesia of the affected portion of skin, and the skin is either thickened or atrophied.

The word leucoderma is liable to give rise to some confusion, as it has also been applied to a disease of the skin occurring in some cases of leucocythemia—this disease consists of soft nodules in the skin, formed of accumulations of lymphoid tissue. The name is the only similarity between the diseases.

No treatment seems to have much influence over this affection —if the patient's nervous system be run down, then arsenic or some of the nervine tonics are indicated. We can alter the color of the skin with blistering agents, but the old state of affairs soon asserts itself again. Sometimes staining the whitened areas with butternut juice causes them to appear less salient.

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CREMATION.

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Read before the Sacramento Society for Medical Improvement.

From the remotest antiquity to the present time mankind has been led by some circumstance to adopt one of three or four expedients for the disposal of the dead. Civilization does not seem to have influenced in any great degree the methods in vogue during the present or the past history of the race. The necessity of putting the bodies of the dead out of sight and removed from the consciousness of the senses, doubtless impelled man to bury them in the earth or destroy them by fire. Both methods have been practised at the same period by nations and tribes in remote times.

The deeply frozen earth perhaps suggested the easier destruction of the body by fire. The terror inspired by the idea of having a dead body devoured by wild and ravenous beasts may have also suggested fire.

Another method of sepulture very commonly practised by the aboriginies of North America, is by wrapping the body in skins or blankets and placing it upon a scaffold of four posts or crotches, there to remain until the soft parts shall have returned to their original elements and nothing is left but the bones, which are by some one of the tribe, carefully interred. Bodies are also suspended in the branches of trees to keep animals from devouring them.

The Parsees of Bombay expose their dead on the top of high towers to be devoured by vultures. They brought this custom from their own country many centuries ago.

The ancient Colchians and Iberians, while cremating persons of ordinary and common-place character, distinguished the remains of their brave and honorable dead by devoting them to be eaten by well-bred dogs kept for the purpose. Both the ancient and modern people have thought it to be a higher destiny to nurture noble animals than to feed worms.

Mummification of bodies which was practised extensively in Egypt, had a religious import and was enforced upon the people by the most solemn ceremonies. Inhumation of mummies was also practised, and the bones of some have been dug up on Stygian shores during our day, that have lain there three thousand years instead of the one hundred which was the time allotted for redemption by the good works of the friends of the departed. The modes of sepulture and the funeral rites of our own aborignal tribes have been thoroughly investigated by the Bureau of Ethnology in the Smithsonian Institute, with the result that the outcome of these investigations shows that every method ever practised in the old world has been practised in the new.

Inhumation has been the most generally adopted custom, but this has been varied in various localities by mummification, by dessication and incinneration and the practice of depositing the dead body on scaffolds. There is a Greek legend that Hercules was the originator of cremation by finding it necessary to burn the body of a friend in order to convey it to the dead man's father in accordance with a vow he had made. In the historical times of Greece there is evidence that interment and cremation were both practised, the choice or prediction depending upon individuals or families. The selection may have depended upon the particular school of philosophy which the persons favored or followed. Thales regarded water as the origin of all things and regarded it as most fit that the body should be reduced to its original elements by putrefaction, while Heraclitus on the other hand, held fire to be the first principle, and he and his sect preferred cremation. The best authorities would indicate that the general practice differed in different cities or states. Thus, while inhumation and interment was the exclusive custom in Sicyon, in Sparta, and in some other cities, cremation was the prevalent, though not the exclusive custom in Athens and in most of the cities in Magna Græcia.

Among the Etruscans and other tribes of ancient Italy, cremation seems to have been a common, if not the prevalent usage, though in the early ages of Rome, interment was preferred by certain families; but upon an increase of intercourse with the East, cremation became common, and met with such favor as soon made it almost the only mode of sepulture among the upper and well-to-do classes. It continued to be the practice during many generations until it very gradually gave place to inhumation or interment, partly no doubt under the influence of Christian teaching and example. The custom of interment, with or without embalming, became established among the early Christians through Hebrew influence, and it is easy to see how the fitness of the mode might have been ratified or confirmed by their belief concerning the sacredness of the body and "the resurrection of the flesh."

Tertullian, in the second or early in the third century, refers to certain heathen as objecting to cremation for what appears to him a superstitious reason, the fear of injuring the soul believed to be in some way still connected with the body. With this weak reason he contrasts what he deems the better reason which prevented the Christians from cremating their dead, namely: "Unwillingness to treat the dead body with harshness or barbarity," and then presently he scoffs at the rude inconsistency of the heathen multitude, in first savagely burning their dead and then most gluttonously feasting them; with the same fires, doing them good and evil. The funeral banquets to which Tertullian alludes have been celebrated by people at a certain stage of civilization all over the world. The intimate association of these banquets, often idolatrous in form, with the practice of cremation, very probably suggests one of the reasons which rendered the early Christians so tenacious of a different mode of sepulture.

Augustine bitterly complained that in some African churches the funeral banquets were the occasion of revelling and drunkenness, scandalous to the neighboring heathen. That the change from cremation to interment took place is apparent from the mention in the Theodosian Code, of both customs as still existing A. D. 438. Macrobius, who wrote somewhat earlier, about A. D. 420, states expressly that the custom of burning the dead had then wholly ceased, and that all that he knew about it he had learned by reading of the past. His statement doubtless refers chiefly to Rome or possibly to Italy, and the presumption is that in the outlying provinces of the empire the custom continued many years longer. A law of Childeric the Third, and another of Charles the Great, prohibiting the practice, shows it still alive in the eighth century. Under the Roman empire proper, it was never prohibited by statute or rescript; even the Christian emperors refusing, if they were asked, to interfere with a practice which had been sanctioned by the approval and example of so large a part of civilized mankind and to which no objection could be fairly alleged on the score of either decency, good morals or religion.

It is to be expected that people slightly conversant with history, and accustomed from education and habit to regard inhumation as the mode of sepulture prescribed by divine institution and the very nature of things, should be at considerable pains to account for the origin of cremation. In the light of modern research concerning primitive culture, such speculations on the subject of cremation seem rather superfluous. The two modes have coëxisted for centuries among the tribes of ancient Greece and Italy, and even among the aboriginies of North America. When further more we consider the fact that throughout the greater part of Asia, from the earliest times until the present day, cremation has been the ordinary mode of putting away the dead, we cannot feel much at a loss to account for the usage. It is surely safe to presume that there is something in the method which commends it to the favor of mankind, independently of any religious dogmas or philosophical theories which have been or may be associated with the practice. The first Aryan who wandered into India may have cremated his dead, and those again, who wandering over the western table lands, may have carried the custom with them in their migrations. The Celts, the Scythians, the Lithuanians, the Germans, the Scandinavians, etc., were all cremationists when first met with in history. The fitness and convenience of the mode must have been strikingly apparent under the inclement skies of Middle and Northern Europe. In the alternate damp and frozen regions inhabited by most of the tribes, fire would have no terrors for the most timid, and as a mode of sepulture would commend itself both to the imagination and to the senses of the dwellers in the cold and sombre North. Besides such considerations as the difficulty of digging graves in certain seasons of the year, fire would seem a proper emblem of life and hope to the dwellers in a region where life was, at least, a continual war with the elements.

There is a great contrast between interment and cremation. Comparisons have been freely made in Italy, Germany and Austria, and, to some extent, in France and Great Britain, of the two methods, though but little has been written about it in this country. Until quite recently the time honored usage of inhumation has been sustained by public opinion—an opinion, called by Pascal queen of the world, strong enough to awe all protest or remonstrance into silence. This rigorous rule makes compliance with the universal custom a matter of necessity. There is a total absence of means by which the abominations might be avoided. And besides if the means were available, more than ordinary courage must be possessed to openly prefer a mode of sepulture so much more scientific and less abhorrent and revolting to the sensibilities than is implied by burial in the ground.

With the change of time men also change. A change in their mental habits lead them instinctively to distrust their imagination. An ever increasing number of those who were formerly content to follow the customs of the preceding generations, now prefer by independent scrutiny to get at realities. They prefer a sterner guidance than mere sentiment and imagination. Those who shrink from the thought of sepulture by fire and who turn to sepulture in the ground as a refuge, have certainly failed to comprehend the conditions which they thus prefer. They have never realized the abominations of what has been termed a "resting place or home of peace." Such phrases are a part and parcel of the poetical and fictitious expedients by which mankind has sought to delude itself and hide the dread secrets of the charnel house.

In a less enlightened age the processes of destruction by burial were, in a degree at least, mysteries with the majority, and however revolting, they are secrets and mysteries no longer, and are subject to the utmost freedom of exposure. There should be no reticence on a subject involving the welfare of mankind. No trait of civilized mankind is more glaringly manifest than indifference and contempt for the sanctity of the tomb. No fact is more notorious than the desecration of graves. There are but few towns and cities that are not partly built upon violated graves. There is not a railway whose construction did not involve the removal of skeletons and even bodies partly decayed. These mortal remains were laid down by sorrowing kindred in the consoling faith that they should lie there undisturbed; and yet it seems that when a few years have passed over a grave, no one seems to question the right or duty to remove the relics if any reason can be given why the removal should take place. No reflection is intended upon those who recognize the necessity of removing the dead for the sake of the living. About the urgency of the removal there can be no question.

[*To be concluded.*]

REPORTS FROM THE HOSPITALS AND ASYLUMS OF THE PACIFIC COAST

SANTA FE R. R. EMPLOYES' ASSOCIATION HOSPITAL.

Needles, Cal.

UNDER THE CARE OF JAMES P. BOOTH, M. D.

Acute Rheumatism Treated by Salicylate of Sodium.

In the language of that most pleasing writer, Fothergill, "It *is* somewhat depressing to have to acknowledge that very little is known about the pathology of rheumatism;" and it is doubtless this want of knowledge which gives us so many "capital" and "specific" remedies for its cure. At present salicylate of sodium stands at the head of the list as an anti-rheumatic, and to test its superiority over the old "alkaline treatment," the following cases were selected:

Case I. F. C——, English, æt. 24, a car repairer, admitted February 19th. Had been transported by rail from Peach Springs, A. T., a distance of 110 miles; was totally unable to move hand or foot, and when transferred from the stretcher to the bed, cried like a child, so great were his sufferings. Temperature, 102°, pulse, 115, full and bounding. To alleviate pain, a hypodermatic injection of morphine (¼ grain) was administered at once. He was then ordered the following to be taken every four hours:

℞—Potassii Acetatis,	gr. v.
Potassii Iodidi,	gr. iii.
Aquæ Menthæ Pip.,	℥ i. M.

To correct constipation, three compound cathartic pills at bed-time.

February 20th—Pills acted freely, morphine quieted pains for perhaps an hour or more, but patient complained that he had slept none. Was still unable to move himself in the least, and cried out with pain when moved by the attendant. Pulse, 98 and full, temperature, 101°; no appetite; urine scanty and highly colored. Ordered salicylate of sodium, forty grains in water every three hours, beginning at 9 A. M. At 4 P. M. was in a profuse perspiration; temperature, 99°, pulse, 82, soft and regular; no pain; complains of tinnitus aurium and giddiness. Ordered same dose every five hours. Patient had no further difficulty, and on February 25th was discharged and returned to duty.

Case II. W. H. S——, in the telegraph department, æt. 34, American. Has had rheumatism for many years, attributable, he thinks, to the peculiar exertion of his daily avocation, viz: climbing poles. Placed on the alkaline treatment March 28th, but after two days' trial was ordered salicylate of sodium. So rapid was the improvement that he returned to duty April 2d, since which time he has written for "more of the same medicine" to be sent him, confident that it will effect a cure.

Case III. E. A. S——, section foreman, American, æt. 25, single, from Peach Springs, A. T., admitted April 3d, unable to walk. Placed on the alkaline treatment. After two days' trial, with no beneficial results, given salicylate of sodium. Discharged, cured, April 9th.

Case IV. Fred Walters, German, laborer, æt. 29, single, from Kramer, Cal., admitted April 23d. Tried the acetate and iodide of potassium for three days with no positive results, when recourse was had to the salicylate of sodium. Patient discharged, cured, and returned to duty May 2d.

Case V. John O'Brien, Irish, laborer, from Peach Springs, A. T., æt. 49, single, admitted May 14th. Ordered the acetate and iodide of potassium at once and after one week's trial, substituted nitrate of potassium and guaiacum with no positive improvement. Began the salicylate of sodium, and in seven days the rheumatism had disappeared. At this period, however, a troublesome conjunctivitis set in and patient was not discharged until June 13th.

Remarks—These cases are specially reported because they were under constant surveillance until discharged, but there were during this same period—that is from February 19th to June 13th—twelve out-door cases of the same disease, in all of which the salicylate of sodium was used with perfectly satisfactory results. Although frequent inquiries were made concerning the head symptoms produced by the remedy, no one of the patient's complained of more than a giddiness or ringing in the ears. The hallucinations or sight objects spoken of by some writers, were not complained of by a single patient. Nausea was noticed in two cases but was speedily relieved by lessening the frequency and quantity of the dose. It is unnecessary to add that in these cases woolen clothing was worn next the skin, and the patient put to bed between blankets. Large doses were given in all these cases, but careful examinations before commencing the treatment, exhibited good heart action with high temperature.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By Wallace A. Briggs, M. D., Sacramento, Cal.

Electricity in Uterine Displacements.—The uterus itself, says Dr. Smith, consists chiefly of non-striated muscular fibre intermixed with dense areolar and elastic tissue and large blood vessels. It is the permanent contraction or tone of this muscular tissue that keeps the uterus in its normal shape. Loss of tone and consequent flexion may be due either to defective nutrition or defective innervation. The arteries of the uterus are large and tortuous and their calibre may be modified by (*a*) the tone of their own circular fibres, (*b*) the tone of the uterine muscular tissue. The quantity of blood in the uterus may be considerably increased by mechanical hindrances to the venous circulation due to constipation, angular change in the direction of the venous blood current, etc. If the normal shape of the uterus is maintained by muscles so is its normal position also. The application of the term ligaments to the uterine supports is erroneous and its results are unhappy. The so-called round ligament is a bundle of muscular fibres derived from the transversalis and uterine muscles. Malgaigne says that the utero-sacral ligaments are composed of non-striated muscular fibres. No evidence is necessary to show that the vagina is a muscular organ. Pessaries are not curative; at best, they are only palliative, and, instead of removing the cause of displacement they aggravate it. Electricity, on the contrary, stimulates the contractile power of the weakened muscles, improves their circulation and nutrition and thus restores their function. Strychnia, ergot and hydrastis tone up the weakened muscles, but their action is slower, more uncertain and less efficient than that of electricity. Electricity, especially the faradic current, is indicated in all forms of displacement, whether due to defective support or to excessive weight of the uterus. In the latter condition, except when due to subinvolution, the galvanic current is preferable, because of its greater trophic action. Before the use of either, the vagina should be thoroughly disinfected. The wire of the faradic coil should be short and thick so as to give quantity instead of tension. Apostoli uses a bipolar exciter, large for the vagina, thin for the uterus, in which the poles terminate about an inch from each other at the end of the instrument. He claims for it the following advantages: (1) Doing away with the cutaneous pole. (2) Concentrating on the uterus (and its ligaments) the whole of the electrical action. (3) Greater ease of application, (4) A stronger current may be employed with less pain.—*American Journal of Obstetrics*, June, 1888.

Hysterotomy versus Cephalotripsy.—DR. CANDELA presents the following *résumé* of a comparative study of these operations. When the case is under control from the beginning Cæsarean section affords better results than cephalotripsy, because (1) It is a uniform operation free from unforeseen accidents, save those of any operation in which chloroform is administered. (2) The comparative brevity of the operation and the character of its lesions reduce traumatic shock to a minimum. (3) Antisepsis may be more vigorously applied. (4) The prognosis as to the fetus, is at least as favorable as in normal delivery. (5) The prognosis as to the mother is as favorable as in ovariotomy. With antiseptic precautions the danger of infection is more imaginary than real, and with catgut suture the peritoneum is preserved from contact with the lochia. The time selected for the performance of the operation (at the beginning of the period of dilatation and before the rupture of the membranes) is of great importance in prognosis. In the presence of a case not previously studied it, behooves the operator to adapt his course to the exigencies of the case.—*Progreso Gynecológico*, No. 105.

Causation and Treatment of the Summer Diarrhea of Infancy.—DR. VAUGHAN advances the following propositions: (1) The factor most frequently operative in the causation of the summer diarrhea of children under two years cf age is to be found in the food. (2) The changes whereby harmful substances are formed in the food either before or after it is taken into the body are fermentative in character; or, in other words, are due to microörganisms. (3) The microörganisms that produce the catarrhal or mucous diarrhea of infancy in summer may be, and probably are, only putrefactive in character, but those which cause the choleriform or serious diarrhea, true cholera infantum, are more than putrefactive; they are pathogenic; they produce a definite chemical poison, whose absorption is followed by the symptoms of the disease. (4) The bacteria which produce these diseases prove harmful by splitting up complex molecules and forming chemical poisons. (5) The most efficient preventive treatment of the summer diarrheas will consist in giving greater attention to the food, methods of feeding and the sanitary surroundings of children during the first two years of their lives. (6) In the curative treatment of the summer diarrheas of infancy, the destruction of the bacteria causing the abnormal fermentation is a necessity.—*Medical News*, June 9, 1888.

Utero-ovarian Gout.—DR. MABBOUX reaches the following conclusions: (1). Gout may localize itself in the female genital organs during sexual life as well as after its cessation—these are a metritis, vaginitis and even vulvitis of gouty origin. (2) These outbreaks of genital gout may either occur during menstruation (dysmenorrheic form) or in the interval. (3) Utero-ovarian gout is amenable to the same hydro-mineral medication (the alkaline mineral waters), as are the other forms. (4) After the subsidence of all inflammatory action the strong sodium bi-carbonate waters are indicated in the non-anemic and especially in the plethoric. (5) The cold calcic sulphate waters are beneficial in most cases because of their resolvent, sedative and tonic action. They may be used soon after the acute stage.—*Bulletin Gènèral de Thèrapeutique*, May, 1888.

SURGERY.

By T. W. HUNTINGTON, B. A., M. D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal.

Chloroform.—In his recent address before the British Medical Association, SIR GEORGE H. B. MACLEOD spoke as follows regarding the use of chloroform as an anesthetic: I, myself, after fairly trying most of the agents in use, now exclusively employ chloroform, and having for years kept an accurate record of its administration, and given it freely and without stint in all sorts of surgical proceedings, never refusing its benefits to a single patient, no matter what his condition or the operation to be performed. I have never had an accident except once, when an epileptic took a fit while being put under its influence, and died with a full and fixed chest. For speed and energy, for ease of application and agreeableness, for rapid recovery with little subsequent trouble, and for safety *when properly administered*, chloroform is, in my opinion, unrivalled. That it needs no apparatus but a towel, is a great point in its favor. This is the record of one who has administered it constantly, almost from the time of its introduction into practice, and the statement in this sense may not be without its value. I never measure the quantity used, but exhibit it freely and take the color of the lips and the respiration as my chief guides. There is little doubt that "nervous" persons and those who are intemperate in the use of alcohol, tobacco and narcotics, and also epileptics require special care—over-saturation from the too frequent renewal of chloroform induces, in my opinion, the chief after-trouble.—*British Medical Journal.*

Successful Operation for Strangulated Inguinal Hernia in a Child Fourteen Days Old.—On Monday evening, July 30, 1888, I was called to see a child fourteen days old. The child had always been peevish, but no rupture had been discovered. On Saturday evening the child had had a natural dejection. On Sunday he vomited several times, but only the contents of the stomach. Monday noon stercoraceous vomiting commenced. I saw the child at 8:30 P. M.; he was rather collapsed. On examination, I found a right inguinal hernia, very tense, hard and irreducible. Taxis, under chloroform, was tried without avail. A few hours' later herniotomy was performed. The bowel was found to be of a deep purple color, but quite smooth and shining. Reduction was easy after division of the stricture. No unfavorable symptoms intervened and the child was well in eight days.—E. L. ROBINSON in *British Medical Journal*, September 1, 1888.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By WM. ELLERY BRIGGS, M.D., Sacramento, Cal.

Disturbances of the Nutrition of the Corneæ Following Gastric Fever.—At a recent meeting of the Société d'Ophthalmologie of Paris, M. DESPAGNET presented a communication on this subject. He stated that it is well known that corneal troubles follow typhoid and malarial fevers. According to Godot it was formerly known that transient fevers of gastric origin produced superficial vesicular eruptions on the lids and corneæ. It was not known, however, that gastric derangements might be followed by deep corneal affections. M. Despagnet described the case of a patient aged forty-three, whose corneal disease he thought was due to this cause. He was taken ill two years previously with symptoms of malaise, vertigo, painful digestion, nausea, etc. The urine, and the heart and other organs were normal. Suspecting arterial sclerosis, he prescribed iodide treatment, which removed the symptoms. Three weeks ago the same symptoms reappeared. This time there was a soft cardiac murmur at the apex. Milk diet and Vichy water was ordered. Two days later there was pericorneal injection, the appearance of a fog before the eyes: gray infiltration of the corneæ, especially in the centre, without inflammatory reaction. The iris and fundus of the eyes were healthy; the corneæ were anesthetic, vision $\frac{1}{6}$, and visual field normal. Eserine drops were prescribed, and six grains of quinine each evening. The patient stated that he saw quite well towards evening. When the pericorneal injection was intense, leeches were applied, with improvement of the local condition as well as in the general health. Much scleral congestion persisted, however, with augmented intraocular tension. There was integrity of the visual field, absence of photopsy and decomposition of light.—*Progrès Medical.*

Symptoms of Disease of the Sphenoidal Sinus.—DR. EMILE BERGER (*Rev. Mens. de Lar.—American Journal Medical Sciences*, September, 1888.), in order to learn the symptoms by which disease can be detected during life, has carefully studied the records of all reported cases in which disease of the sphenoidal sinus has been found *post-mortem*. Caries and necrosis present the following groups of symptoms: (1) Sudden unilateral blindness with phlegmon of the orbit; the origin of the blindness being perineuritis of the optic nerve in the optic canal. (2) Slow detachment of fragments of bone, without ocular troubles, and, finally, meningitis. (3) Sudden discharge of a large quantity of bone, by the nose. (4) Fatal hemorrhage after perforation of the wall between the sphenoidal and the cavernous sinuses, (5) Retropharyngeal abscess. (6) Thrombosis of the sinus and of the ophthalmic vein, due to thrombosis of the circular venous sinus of the sella turcica. (7) Perforation of the inferior wall of the sphenoidal sinus, without any other symptoms. In cases of tumors of the sphenoidal sinus, four periods can be distinguished: (1) When the tumor is limited within by the walls of the sinus, there may be no symptoms, or cephalalgia only. (2) When the tumor, by its growth, dilates the walls of the sphenoidal sinus, producing their atrophy and compressing adjoining organs—the compression may involve one or both optic nerves and produce amaurosis. (3) When the tumor may propagate beyond the walls of the sphenoidal sinus, it may extend into the nasopharyngeal cavity, ethmoid cells, or orbit and, finally, into the cranial cavity; perforation of the base of the cranium may occur without any symptoms, or may excite grave cephalalgia. (4) Metastases are observed in various organs. Epileptic seizures often take place. If the tumor grows rapidly, then meningitis or cerebral abscess occurs soon after perforation of the base of the skull. Wounds of the sphenoidal bone may produce the following symptoms: (1) In fissure of the superior wall of the sinus, continuous trickling of cerebro-spinal fluid. (2) Rupture of a fragment of the body of the bone may wound the internal carotid, to the inside of the cavernous sinus and cause pulsating exophthalmos. (3) Continuation of the fissure in the canal of the optic nerve will cause compression or rupture of the optic nerve, and, consequently, amaurosis. (4) If the fissure extends to the oval or round foramen, it will produce anesthesia of the second and third branch of the trifacial, and a rupture or wound of other and cerebral nerves may present simultaneously.

Artificial Tympanic Membranes.—DR. TURNBULL, of Philadelphia, read a paper at the meeting of the British Medical Association, at Glasgow, in which he expressed the following conclusions: (1) That such aids were important to the health of the ear, by preventing dryness and the general dangers to the hearing from the want of the protecting power of the natural membrane. (2) A certain degree of hearing would be possible without the membrani tympani, but perfect hearing would be impossible without it. (3) In the various agencies which had been employed they had not only the means of protecting and preventing the drying effects of air, but also the prevention of the passage into the middle ear of injurious foreign agents, the prevention of disease from cold air or water, so apt to set up acute inflammation, followed by abscess in the mastoid or brain. Satisfactory results had been obtained from the cotton ball or pellets of Yearsley. The objection to this was the tendency which the ordinary cotton had to cause irritation, by bearing bacteria and micrococci and other foreign matters. It sometimes fitted so closely, owing to discharge or mucus on its surface, as to make a shut-sac, and absolutely prevent the vibrations of the membrane, thus acting as a damper. These difficulties were overcome by employing corrosive sublimate solutions with "sublimate cotton," or a disc of sublimate gauze, moistened with fluid cosmoline, so as to make it more adhesive. When water with glycerine was employed the mixture would soon ferment in the ear, become irritating and cause inflammation. The sublimate solution should not be used stronger than 1:4,000; if stronger, it gives pain. The patient was supplied with a dozen or two of these cotton pellets, attached to threads. The fluid cosmoline, or vaseline, was to moisten the pellets when about to be introduced, if the parts were dry. The second form was the india rubber disc. The author had discarded all forms of apparatus which had any metallic handle, having found them irritating and injurious. He applied a disc of "Mead's adhesive plaster," which was found to be perfectly pliable and antiseptic, or the same make of "boric acid plaster." He had had reports from almost every case of its success in relieving deafness, assisting the perforation in closing, the plaster being retained for months, and in one case, two years, with but little irritation. DR. C. M. THOMAS informed the author that he had found the oil silk that was employed in antiseptic dressing, a very successful artificial membrane, looking and acting like the natural one. He cut the pieces the size required, leaving a small opening in the centre. DR. ELLIS (Newcastle), said that patients afflicted with chronic deafness were so anxious to be helped that they would listen to anyone who would give them hope. This fact was often taken advantage of by impostors, and for that reason he questioned whether artificial drums were a blessing or a curse. They were a frequent source of defrauding the afflicted.—*British Medical Journal*, September 1, 1888.

Nasal Polypi.—After reviewing the subject of nasal polypi from a historical and pathological standpoint, DR. G. ARCHIE STOCKWELL says (*Medical and Surgical Reporter*, September 8, 1888), that we find no less than six methods of treatment still advocated, viz.: (1) The method of Hypocrates; (2) Removal by snare; (3) Evulsion by forceps; (4) Galvano-cautery; (5) Topical applications of astringents; (6)Caustics and escharotics. The first method has little to recommend it and it meets with slight favor. Snaring of late years is generally performed by means of wire écraseurs, notably those of the Jarvis' pattern. Evulsion by forceps, for all it has held its place for many years, and is so extensively taught and recommended, even by some of the most eminent members of the profession, is a most barbarous procedure, and withal uncertain, unsatisfactory and dangerous. Not only is the pain evolved thereby often most excruciating, but free hemorrhage obstructs the view after the first effort, and the operator is compelled to grope blindly for that which cannot be discerned. The galvano-cautery is open to the same objections as the snare, viz.: difficulty and painfulness of introduction and adjustment, and the suffering produced by tightening, while it is especially liable to injure surrounding parts. Astringents, especially tannic acid, are recommended by Bryant, who advises their application to the growth by insufflation. This is usually palliative rather than curative. Caustics, at the present day, meet with favor, especially glacial acetic, carbolic and nitric acids and tincture of iodine. Glacial acetic acid is particularly satisfactory, save for the pain induced, and the difficulty of confining it to the growth alone. The others are open to like objections, and the additional one of unpleasant fetor arising from the slow death induced. Of late years, chromic acid had proved more satisfactory in the author's hands, as it is totally devoid of the unpleasant features accruing to other caustics and escharotics, since its properties are limited to the growth to be removed. A saturated solution of chromic acid freshly made with water, or the crystals merely moistened, may be applied by means of a fine glass rod or glass brush, or a piece of cotton wound about a slender gutta-percha probe. The growth absorbs the acid quickly, which insures its death, and the polypus comes away spontaneously in a few hours, or, at most, a few days, a second application being rarely required. Some of the author's patients, who had been treated by evulsion spoke with complacency of the use of chromic acid, as being pleasanter and nearly devoid of pain. On account of its painlessness, certainty and other advantages, it cannot fail to commend itself.

The Surgical Treatment of Membranous Opacities in the Vitreous.—DR. C. STEDMAN BULL reviews the history of the treatment of vitreous opacities and gives a record of seventeen operations performed by himself. He used, according to the firmness and strength of the new membranes, an ordinary discission needle, a broader needle with double cutting edge, or a very slender cataract knife. Cocaine was employed in all cases. Wherever the peculiarities of the case admitted, the point selected for the puncture was just in front of the equator of the eye-ball, and just below the lower border of the external rectus muscle. The operation is a very brief one, and where possible, was preceded and followed by a rapid ophthalmoscopic examination. There seems to be no danger of loss of vitreous through the minute puncture made in the sclera, and almost as little probability of any annoying hemorrhage. Care should always be taken to make the puncture posterior to the ciliary process, and to avoid any undue pressure on the eyeball by the forceps. Little or no reaction follows, save in exceptional cases, and a protective bandage is needed only for two or three days. Of the seventeen operations done by the author on fifteen patients, fourteen gave decided improvement in vision and three proved to be failures. In no case was there any loss of vision from the operation. He concludes that the operation is a suitable one in certain cases, and is justified by the results obtained. It would seem wise to wait in any case until all inflammatory symptoms have long subsided before attempting to divide the resulting obstructing membranes, whether caused by hemorrhage into the vitreous, or by a hyalitis, the result of choroiditis. The eye should be absolutely free from all irritation before attempting any surgical interference.—*Med. Record*, September 1, 1888.

DERMATOLOGY AND VENEREAL DISEASES.

By G. L. SIMMONS, JR., M.D., Sacramento, Cal.

Case of Entire Absence of Both Mammary Glands.—DR. W. WYLIE, of Skipton, describes (*Brit. Med. Jour.* Aug. 4, 1888) the case of a woman æt. 21 years, in all other respects normal, and in the enjoyment of perfect health, whom he lately confined. There existed no trace of mammary glands or anything resembling them. There was a small mole near where the right nipple should be found, and the pectoral muscle seemed quite bare of adipose tissue in that neighborhood. After confinement there was no trace of milk, nor has she suffered from sympathetic pain or uneasiness of any kind in that region.

Electricity in Incontinence of Urine.—In the *Gaceta de Enfermedades de los Organos Genito-Urinarios* for May, DR. ALEJANDRO LETTIER records two cases of complete incontinence of urine, in which he used electrical treatment with success. The electricity was applied in the manner recommended by Guyon. Dr. Lettier lays stress on the importance of continuing the treatment at short intervals for a considerable time after the bladder has recovered its tone.—*British Medical Journal*, August 4, 1888.

Creolin in Gonorrhea.—Gonorrhea, which has resisted other treatment, has frequently yielded in DR. MARGARETTI'S practice to irrigations, twice daily, with a solution of creolin of the strength of 5 to 8 per cent. administered through a hollow sound.—*Lancet*, August 18, 1888.

Sticking Plaster Treatment of Erysipelas.—PROFESSOR WÖLFLER of Graz, remarking that Otto had met with considerable success in treating erysipelas on the plan recommended by Barwell and Freer, viz: the application of white lead paint to the affected part, which they thought acted by keeping the air from the erysipelatous cocci, and so prevented them from multiplying—determined to carry out this principle of exclusion of air in a somewhat different and more effective manner. The substance he used at first was linseed oil varnish, but he found that not only was an impermeable coating necessary, but some degree of pressure as well. He then tried gutta percha paper fastened to the skin with chloroform. This, however, was not satisfactory and so he turned his attention to something simpler, viz: strips of isinglass sticking plaster about the breadth of a thumb. This proved exceedingly efficacious, the fever rapidly declining and the erysipelatous blush showing no disposition to spread.—*Lancet*, July 7, 1888.

MATERIA MEDICA AND THERAPEUTICS.

By WM. WATT KERR, M. A., M. B., C. M., Professor of Therapeutics, University of California, San Francisco.

The Oxygen Treatment.—The *Philadelphia Medical Times*, September 1, 1888, contains an interesting article on this subject by DR. JOHN AULDE. The writer very judiciously calls attention to the tendency existing among the bulk of the profession to leave this method of treatment in the hands of quacks and irregulars on account of the erroneous idea that it is too cumbersome, expensive and difficult for general practice. As a means for obtaining perfectly fresh oxygen, the most convenient and inexpensive is by means of a preparation of peroxide of hydrogen, which, on being moderately warmed, gives off one equivalent of its oxygen in a state so decidedly active as to strongly resemble ozone. Although the quantity of gas given off in this manner is very much smaller than that which is generally inhaled from the ordinary iron or copper cylinders, the fact of its being strictly nascent appears to more than compensate for its diminished volume. Another method is by one of the portable generators that have been introduced recently and cost only about twenty-five dollars. The peroxide method is more convenient and consists in putting a small portion of a three per cent. peroxide solution in an inhaler together with a little clean water and applying heat; the evolution of oxygen soon follows, and the patient is permitted to practise inhalation from ten to fifteen minutes, three times daily; or, in cases where the inhalation is too laborious, five minutes or less will be sufficient, in which case it is advisable to increase the frequency of the administration. In this way the patient inhales pure, warm air, charged with oxygen, while carbonic acid, which ordinarily accumulates during pulmonary diseases and causes depression, is thrown off. The use of oxygen is simply an auxiliary, relieving many of the most distressing symptoms occurring during the progress of phthisis, but is not a specific. In cases where the respiration is too difficult to permit the use of an inhaler, the peroxide may be used in the form of a spray. Although Dr. Aulde's paper has particular reference to phthisis, the same treatment may be pursued with advantage in emphysema, spasmodic asthma, bronchial dilatation and grangrene of the lung.

Paraldehyde for Vomiting.—La Moure, in the *Albany Medical Annals*, recommends paraldehyde for the vomiting of ovarian disease and pregnancy, or in the nausea of migraine. He gives forty drops in an ounce of simple elixir; a teaspoonful in water every half hour.—*Philadelphia Medical Times.* [I tasted paraldehyde—once—and can only explain the above by supposing that the stomach is simply paralyzed with astonishment that such a dose should be deposited in it. W. W. K.]

Pilocarpine.—The Editor of the *Medical and Surgical Reporter* calls attention to the danger of a fatal bronchorrhea following the use of pilocarpine, and mentions two cases of uremic convulsions and one of atropia poisoning in which this happened. As all the cases were in a condition in which death would in all probability have taken place, apart from the unfavorable effects of the pilocarpine, the editor admits that it may be questioned whether the bronchorrhea produced the fatal result. [Perhaps the following case from my own experience may be of some service in enabling our readers to arrive at a fair conclusion in the matter. Some time ago I gave to a patient, suffering from Bright's Disease, one-sixth grain of pilocarpine by the mouth. There had not been any convulsions, but the urine was scanty, the limbs edematous, the headache severe, while purgatives and the other usual remedies failed to afford any relief. In about ten minutes after taking the pilocarpine, the secretion of saliva was very much increased; in about half an hour copious mucus *râles* could be heard all over the chest, and the embarrassment of respiration increased until the patient died in less than two hours after taking the medicine. There was no doubt that death was due to bronchorrhea. W. W. K.]

Ichthyol in Pulmonary Diseases.—This substance, obtained from a bituminous rock supposed to be deposits of fossil fish, has been used extensively in surgical and dermatological practice during the last few months. It is prepared by distillation, as the ammonium or sodium ichthyolate, soluble in water and perfectly miscible with fat or vaseline. These preparations contain about fifteen per cent. of sulphur in such intimate union that it cannot be separated without complete decomposition of the substance. It may be given in capsules in doses of fifteen grains, or it may be used as an inhalation in a twenty-five per cent. watery solution, and lastly, it is most frequently administered as an unguent. The mode of action is still somewhat obscure, but the experiments reported by DR. ZUEBZER, of Berlin, would indicate that it is a tonic by preventing tissue waste. He found that part of its sulphurous and azotic matter was retained in the system, and, as at the same time the weight of the patients increased, he argued that the matter retained in the system caused an increase of the albuminoids, into the constitution of which these compounds enter. The rapidity with which it reduces swelling when applied to local congestions, leads to the belief that it causes contraction of the capillaries. With its use in the treatment of skin diseases, such as chronic eczema, chronic urticaria, acne, intertrigo and lymphatic swellings, the profession is by this time comparatively familiar; but, DR. MAYS, of Philadelphia, writes in a recent number of the *Medical News*, recommending its use in various diseases of the chest. The chief indications for its administration are the cough and copious expectoration, which are so troublesome to patients suffering from chronic bronchitis, bronchorrhea or phthisis pulmonalis. Whether the improvement is due to a contraction of the capillary blood vessels, to checking inflammatory changes, to an action of the sulphur upon the bronchial mucous membrane, or to some other cause, remains a question for further investigation.

MEDICINE AND PATHOLOGY.

By ALBERT ABRAMS, M. D., Demonstrator of Pathology, Cooper Medical College, San Francisco, Cal.

Cocaine in Pleurisy.—DR. H. C MARSH writes to the *British Medical Journal*, calling attention to the use of cocaine for the relief of pain in the above disease. He recommends that one-fifth or one-fourth of a grain be injected sub-cutaneously at the most painful spot, and the injection repeated once or twice daily. He claims that not only is the pain relieved, but that cocaine is superior to morphine for this purpose, as it is free from much objectionable secondary effects, as constipation and a tendency to pulmonary congestion, while by contracting the vessels a most decided check is put upon effusion into the pleural cavity.

The Prognosis in Syphilitic Diseases of the Nervous System.—PROF. NAUNYN collected 325 cases of nervous affections due to syphilis, 155 (48 per cent.) of which were cured and 170 (32 per cent.) in no wise benefited. Cases of epilepsy yielded the best results. Similar good results were obtained in neuralgic affections and paralyses of the basal cerebral nerves. Poor results were obtained in monoplegia, hemiplegia and paraplegia. The treatment, if beneficial, will manifest itself immediately. If by the end of the first week after the administration of iodide of potassium and the end of the second week after energetic mercurial treatment no benefit is obtained, then the outlook is hopeless. Any benefit derived from the specific treatment is first seen in improvement of the general condition. Heroic medication is necessary. Inunction is preferred in the administration of mercury.—*Deutsche medicin. Wochenschrift*, July 12, 1888.

Chronic Intoxication from Tea Drinking.—DOCTOR BRULLARD (*El Siglo Medico*), from a study of seventy-four cases, concludes as follows: 1. The action of tea is cumulative. 2. The effects are most pronounced in young people, in the anemic and debilitated, but toxic symptoms have been observed in persons of good constitution. 3. The quantity of tea necessary to produce toxic effects must be more than five cups daily. 4. The symptoms are: Loss of appetite, dyspepsia, palpitations, nausea, vomiting, nervous excitement, disturbances of intellect, and the patient may even become maniacal. There are also present, cardiac pains, radiating to the left arm and various parts of the chest.—*Lyon Médical*, July 1, 1888.

A New Yellow Fever Microbe.—DR. PAUL GIBIER, who in connection with Dr. Domingoes Freire, discovered a microbe in the blood of yellow fever patients, afterwards withdrew hls share in this discovery before the Paris Academy of Sciences and declared that after new researches and experiments he had arrived at totally different results from those obtained by Domingoes Freire; that he had not been able to find the same microörganism in the blood, nor any yellow fever microbe in the urine. This was on the 13th of February, 1888. On the 24th of July, at a meeting of the French Academy of Medicine, M. Gibier made the following statement as the outcome of his latest researches in Havana:

1. Neither in the blood, bile, serous fluid of the pericardium, nor in the abdominal viscera, except the intestinal canal, has he found, in the majority of yellow fever cases, any microörganisms. In those exceptional cases, where they are present, they are of variable species and are probably introduced accidentally or through the circulation from the intestinal lesions. 2. The intestine of yellow fever patients contains a dark colored toxic matter. 3. This matter contains a bacillus which dyes the matter wherein it develops. It is either straight and short or elongated and bent. It liquifies gelatine; introduced into the intestines of guinea pigs and dogs, it causes serious disturbance or death with the formation of a similar black matter as found in the bodies of yellow fever patients. The cultures of this bacillus exhale an odor resembling that of *vomito prieto*. A temperature of 60°C. destroys it in ten minutes; cold of 10°C. does not kill it within an hour. Desiccation in open air and in the shade destroys it in 24 hours. It is easily cultivated in sea water, and lives at least six months in contact with common microbes. A temperature of

more than 20°C. is required for its development; it does not seem to pro duce spores. The curved shape which it forms in old cultures may place it in the class of the spirillia. Gibier thinks that from its ability to live in sea water, this microbe is very likely the cause of the black vomit which is almost confined to port towns. 4. The presence of the black toxic matter, which is invariable in yellow fever and the early gastric symptoms which persist nearly through the whole course of the disease, the absence of microbes in other parts than the intestinal canal, are greatly in favor of the theory of intestinal origin. In accordance with this theory, the treatment of yellow fever at Havana consists mainly in repeated purges and disinfection of the intestines.

The theory of M. Gibier, provided his observations are more correct than those on which the now exploded inoculations of Domingoes Freire were founded, seems very acceptable. The old and time honored practice of giving a large dose of castor oil at the first attacks of illness in yellow fever ships and ports, would be quite in conformity with this new bacterial hypothesis. The turpentine treatment and enemas with disinfectant solutions (camphor, etherial, oils, benzoic acid, in the shape of paregoric), have been used in Brazil with evident success. Decidedly not in harmony with the bacterial theory stands the fact well-known to all sailors that attacks of yellow fever often occur after exposure to a sudden chilling of the body with suppression of cutaneous perspiration and congestion of the internal organs. Could the microbe be already present and could it prosper suddenly under this intestinal congestion? and would it become ptomaine manufacturing under such circumstances on a larger scale? A microbe which is, so to speak, an "old salt," may be expected to take advantage of the weaknesses of his surroundings. Not quite in keeping with the theory of a marine microbe may be considered the spread of yellow fever in 1867 to 300 miles from the coast in Texas and to the interior of Cuba this summer, unless it is assumed that it may flourish also in fresh water; but then, why does it not move farther inland like cholera? If it is, like this disease, introduced by the mouth, many cases of infection by a few hours sojourn in a certain locality where no sick persons are present, may be well explained. In yellow fever, however, as in cholera epidemics, many persons must be infected by the introduction of the microbes who never developed the disease, because of their individual resistance. To strengthen this resistance we remove all physiological drawbacks and practice what we call sanitation.—*Sémaine Médicale.*

The Treatment of Chronic Bacillary Phthisis.—DR. WORMS introduces the following treatment for this affection, based on the fact that the bacilli of tuberculosis best develop at a temperature of 37.5°C. and that any material alteration in temperature will at once arrest their growth. He seeks by the inhalation of cold air methodically used, to secure an anti-bacillary action. This is best obtained by having the patient live most of the time in the open air, and with the mouth wide open, inhale cold air.—*St. Petersburger med. Wochenschr.*, August 18, 1888.

Sacramento Medical Times.

JAMES H. PARKINSON, L. R. C. S. I., EDITOR.

COMMUNICATIONS are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: OCTOBER, 1888.

METHYLENE.

Methylene bichloride, which was first brought before the profession as an anesthetic by Dr. B. W. Richardson in 1867, has not come into such general use as its apparent merits would deserve. It has recently been brought into notice in a paper by Dr. Wm. H. Day,* who has had extensive experience with the drug. He says, "It is a mystery to me that an anesthetic, so safe and effectual as methylene, should not have been more generally employed by the profession," and summarizes its advantages as follows: "It is less likely to cause vomiting, it is more agreeable to inhale and there is less excitement preparatory to the stage of anesthesia; rarely more than three or four drachms are required for an operation lasting half an hour and consciousness returns in a few seconds after inhalation is discontinued." In point of safety he characterizes it as "first class," and in an experience of 1230 administrations has met with nothing to alarm him. Sir Spencer Wells, who has employed it, to the exclusion of other anesthetics, for twelve years, is strongly impressed with its great superiority, and Dr. Field and other observers are equally warm in its commendation.

Dr. Richardson, in his ever interesting *Asclepiad* (3d quarter 1888), reviews his previous report on the subject and adds his further experience of twenty years. Bichloride of methylene ($C H_2CL_2$), is made by the action of chloroform on zinc, a little absolute alcohol being at first added to start and facilitate the action. It is a colorless fluid, with an odor similar to chloroform, the specific gravity is 1,344, and the boiling point, though variously stated, is believed by Dr. Richardson to be 111° F. He was first led to employ it from the fact that he regarded the chlorine in chloroform as the dangerous element. Chloride of methyl ($C H_3CL$), was first tried, but was found to be unmanageable. The bichloride, which contained one atom less of chlorine than chloroform, was then adopted. Methylene differs from chloroform in its action, in producing anesthesia more quickly and in maintaining the effect for a longer period. Recovery, when commenced, is far more rapid and there are no tedious after-effects. From ether it differs in being more prompt in its action, the recovery is more rapid, and there are no after-effects. The *post-mortem* appearances in fatal cases are quite distinct.

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*British Medical Journal, July 14, 1888.

	Chloroform—	*Ether—*	*Methylene—*
Lungs:	Bloodless.	Intensely congested.	Contain blood, not congested.
Heart:	Right side gorged.	Blood on both sides.	Blood on both sides.

Dr. Richardson concludes that bichloride of methylene holds a place between ether and chloroform, being safer than chloroform, but not as safe as ether. In efficacy, it is equal to chloroform, while it is quicker in action; more persistent and far more manageable than ether. Altogether he does not know of an anesthetic which combines so many advantages with so few dangers.

Mr. Dudley Buxton* approaches the subject from the opposite side. In considering the question whether the methylene used *is* bichloride of methylene, he brings forward important evidence that it is not, and that the pure article is not an anesthetic. Dr. Richardson, in his earlier experiments, employed pure methylene and found by personal experience that it *was* an anesthetic. The cost of its production being prohibitive, he subsequently ascertained that a less pure product, which contained a small quantity of alcohol, chloroform and water, was more satisfactory as an anesthetic and a more staple compound. Dr. Buxton evidently regards the anesthetic methylene as a diluted chloroform and says, that "the difference (in effect) between it and pure chloroform is one of degree, not of kind." In support of this he cites physiological experiments as well as the clinical observation, that a mixture of chloroform and alcohol will give identical results. Dr. Richardson recognizes the existence of a class of patients, the *morituri*, that die under slight shocks of any kind. These subjects have died under every anesthetic and have furnished their quota with the use of mythelene. It is a familiar argument of the chloroformists that when ether shall have been given as many times, the death rate will more closely approximate that of chloroform and this can be used with greater force in the case of methylene. At present in the hands of a few, and in a comparatively limited number of administrations, there have been fatal results, and there is no reason to suppose that a more extended experience would fail to supply a similar percentage.

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*British Medical Journal, July 28, 1888.

Admitting that methylene is safer than chloroform, and assuming that it is less so than ether, we may contrast it with the latter agent: Methylene, to be administered satisfactorily, demands a special apparatus, its great volatility and low boiling point precludes the use of the open method. In this respect it does not differ from ether, for we have always contended that to produce unfailing anesthesia with economy of time and ether, an inhaler is absolutely necessary. An element of danger is here injected into the case. The apparatus for methylene is somewhat complicated, and, as Mr. Buxton remarks, while ether may be given to saturation, a higher percentage than four of methylene is unsafe. It is this feature which would undoubtedly render its administration in inexperienced hands and in emergencies, more fatal. Regarding the certainty of administration there need be no comparison as ether will never fail when properly handled. To compare the time required to produce insensibility we must have more definite figures. Dr. Richardson has seen teeth painlessly extracted after an inhalation of 19 seconds, and this has never been attained with ether. From his own experience he says: "I generally produce good narcotism within five minutes," a statement which any competent etherist can repeat. Regarding the quantity of the anesthetics required, it is apparent that a much smaller amount of methylene will be consumed. It therefore appears that the superiority of methylene consists in the smaller quantity required to produce anesthesia and in the absence of after effects. The first of these considerations is more than balanced by the greater cost of methylene, and against the second may be placed the acknowledged greater safety of ether. We believe that the anesthetic has yet to be discovered, which for certainty, expediency and safety will equal ether when administered with a good inhaler.

NOTES.

A Case of Retributive Justice.

Some months ago a wealthy rancher of this county conducted himself in such a manner that his family became apprehensive for their safety, and decided to confine him in an asylum. His resentment was principally directed against his wife, a woman of excellent character, advanced in years, the mother of a large family, whom he accused of having had intercourse with some of the farm hands. He stated that on several occasions he was on the same bed on which these acts were perpetrated, but in a cataleptic condition, the result of chloroform, which she had administered. The method of administration was interesting. She had placed a handkerchief, saturated with chloroform, in the pocket of a dress which hung four feet from the head of his bed. On these facts and much additional evidence, three physicians decided that he was a monomaniac and that it was unsafe for him to be at large. A jury was impanelled, and in the face of the medical testimony and overwhelming evidence furnished by the accused and his family, they acquitted him of the charge. The result was mainly due to the efforts of able counsel for the defense. The accused had numerous friends who firmly believed in his sanity, and regarding him as the victim of designing people, helped him with testimony and funds. One man in particular was earnest in his protests against the outrage sought to be perpetrated upon his friend. Several months after the trial he asked the victim to witness a will of which he was the executor; this was duly done. Subsequently the testator died and the will was contested, when the same man testified upon oath that he never signed or saw the will, denied his own signature, and positively accused his friend, the executor, of sequestrating $1000 of the funds involved. Many similar cases have, no doubt, occurred, and it is most desirable that they should be recorded as furnishing important evidence on the intricate subject ot mental jurisprudence.

Drunk or Dying.

Recently a man was brought to the city prison, at San Francisco, in an unconscious state. He had been found lying in a doorway and, as it was supposed that he was drnnk, he was placed in a cell. Subsequently it was ascertained that he was dying, and he expired shortly after being removed to the Receiving Hospital. This unfortunate occurrence is a repetition of that which has frequently happened in large cities and emphasizes the necessity for observing two simple rules. First, a person who is unconscious from any cause, should not be left alone but should remain under constant observation. Second, when an individual is found to be profoundly insensible, he should be seen by a physician at the earliest opportunity. This is the more important if it be recollected that it is often impossible for the most experienced practitioner to arrive at a correct diagnosis. In this instance the case was obviously fatal, the cause (which subsequently transpired) being a violent blow on the neck.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting August 21st, 1888.

The President, J. R. LAINE, M. D., in the Chair.

Subclavian Aneurism.—THE PRESIDENT exhibited a case of tumor in the left supra-clavicular region which he believed was aneurismal. The subject was a colored man aet. 50 years. The tumor pulsated in every direction and extended well above the clavicle at the middle third. Members present examined the case and concurred in the diagnosis.

DR. T. W. HUNTINGTON reported *A Case of Laparotomy for Knife-Wound of the Abdomen*. [Published at p. 452.]

DR. W. A. BRIGGS had been present at three operations of this character. The result in two had been fatal. In the first case (his own), the operation had been delayed until three days after the accident. A wound of the cecum was found and fecal matter had passed into the abdominal cavity. The patient died from general peritonitis. The second case proved fatal from the gravity of the injury. In Dr. Huntington's case he believed that the operation was justifiable and felt at the time that the patient's chances had been much improved by the operation. He advocated early operation. He thought that a diagnosis of intestinal perforation could be made if there was much pain with collapse.

DR. H. L. NICHOLS thought that in the case reported the result would have been fatal without operation.

DR. J. H. PARKINSON believed that the chances of life were much greater with laparotomy than without, and he considered the operation both justifiable and indicated in all penetrating wounds of the abdominal cavity. There was a point of medico-legal interest in these cases as the majority of them were the result of assault and therefore two lives depended on the issue. It had been suggested that where death ensued the question might arise, Did the operation influence or even determine the fatality? He believed, however, that the surgeon should act solely according to his judgment in the case, unmindful of external considerations and that consequently he would be always able to justify his conduct.

DR. A. E. BRUNE would take into consideration the probable size of the wound of the intestine. In case of wounds from small projectiles, it had been his experience that by rest and appropriate treatment recovery would ensue without operation. The result would be largely influenced by the bowel being full or empty.

DR. W. F. WIARD believed that in view of the gravity of these cases an exploratory incision was always justifiable.

The PRESIDENT said that there was comparative safety in performing laparotomy. As for the medico-legal aspect of the case in punctured or lacerated wounds of the intestine recovery was almost impossible unless the abdominal cavity was opened and the wounds closed.

DR. HUNTINGTON said the reasons for performing laparotomy are pressing ones and connected with grave considerations. The operation should be performed without hesitation or delay. The mortality from laparotomy was about 39 per cent. He believed that surgeons should be familiar with the methods of performing the operation so as to avoid delay in cases of emergency. In this case on opening the abdomen he at once recognized the necessity for an operation. One week after the operation the original wound opened and discharged about ℥ii of pus. He thought that this was due to defective closure of the wound, as he believed that the pus came from a pocket in the abdominal wall. He believed that preparation for the operation was the keynote of success.

DR. NICHOLS read a brief paper on *Hernia*, introducing the subject of its radical cure for discussion.

DR. Z. T. MAGILL had operated on two cases by injecting fluid extract of white oak bark. The first case was successful; the second, he operated on twice with some benefit.

DR. I. E. OATMAN had had some experience with congenital hernia but had always succeeded in curing his cases with a truss. In umbilical hernia he used a cork filed to a cone and secured in place with strips of adhesive plaster. He had always succeeded in reducing hernia in the adult by position and taxis without an anesthetic.

DR. T. W. HUNTINGTON believed that an effort should be made to induce a radical cure in every case that at all admitted of operation. He had operated in one case of omental hernia and the case was, so far, a success. He felt that taxis was too often persisted in for a length of time which was directly injurious.

The PRESIDENT said that when the bowel was in good condition he believed in dissecting out the sac and excising it.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting August 13, 1888.

The President, J. D. ARNOLD, M. D., in the Chair.

New Members.—DR. J. W. HEERDINK and DR. LOUIS BAZET were duly elected members of the Society.

Resignations.—The resignations of DRS. G. F. G. MORGAN, F. H. DENNIS, J. C. S. AKERLY and J. H. HEALY were read and accepted.

DR. A. ABRAMS read a paper on *The Pneumatic Cabinet and its Use in the Treatment of Pulmonary Diseases* (published at p. 407, No. 9). He showed a patient who had been operated upon for empyema, but in whom the wound had not closed, and there was still considerable secretion of pus.

DR. C. G. KENYON said that he had operated upon the patient in question, by removing about two and a half inches of two ribs, thus permitting the free escape of pus which was being rapidly secreted. He believed the result would have been better had a larger section been made.

DR. A. P. WHITTELL said that the cabinet seemed to offer many of the advantages associated with a change of altitude. He did not think that by means of the rubber band it was possible to limit the expansion to one or two ribs, as the attachments of these bones and the mechanism by which they were elevated and depressed, strongly favored a conjoined action. Such an arrangement as the cabinet would be excellent in overcoming the spasmodic contraction of the smaller bronchi in asthma.

DR. H. M. SHERMAN doubted the efficacy of using the cabinet in capillary bronchitis, since the danger in that disease was the passage of the exudation into the air cells and the increased inspiratory pressure would tend to produce this very result. The method could not be compared to change in altitude, as in the latter there was not any change in the relation between the internal and external pressure.

The President had obtained his best results in the treatment of acute and chronic bronchitis or incipient phthisis. He believed that making the apices of the lungs take part in respiration was a decided prophylactic against the last mentioned disease. In breaking down pleuritic adhesions it is much more thorough and effective than the gymnastic method.

Dr. A. Abrams, in replying, said that in the empyema case exhibited we had a pus secreting cavity which had not yielded to treatment; his object, therefore, was to destroy the cavity by inflating the lung. There was no doubt that the intercostal muscles could act by themselves and, therefore, local expansion was possible, although to a limited extent.

Regular Meeting August 28, 1888.

The President, J. D. **Arnold**, M. D., in the Chair.

Dr. A. Barkan reported and exhibited several cases of paralysis of the ocular muscles. After dwelling for sometime upon the causes and general features of the disease, he referred to its significance as a symptom in general diseases, and expressed the opinion that paralysis of the ocular muscles was unsatisfactory as a means of diagnosing the seat and nature of brain lesions; although he admitted that complete ocular paralysis was generally due to injury at the base. It was also a frequent precursor of tubercular meningitis and under such circumstances was most frequently seen in children. The prognosis is generally more favorable in adults, as in such cases it is frequently due to a specific cause. In other patients, however, it is associated with tabes dorsalis, disseminated sclerosis and progressive paralysis of the insane. In answer to a question Dr. Barkan said that he believed the exophthalmos in paralysis to be due to want of tone in the ocular muscles.

Dr. A. P. Whittell said that the cases mentioned tended to show the broadness of the field of the specialist and that their treatment must frequently be directed towards the constitution instead of being limited to the eye and its appendages.

The discussion afterwards was chiefly limited to ocular paralysis as a symptom of tertiary syphilis and the most appropriate form of treatment.

The President asked whether Dr. Barkan preferred mercury or iodides in these ocular tertiary symptoms.

Dr. Barkan replied that whenever ocular symptoms appeared after a specific lesion he regarded them as an indication that the appropriate treatment had not been continued for a sufficient length of time. His custom was to order thorough inunction of about one drachm *per diem* for six weeks and afterwards to put the patient upon iodides; his reliance, however, being chiefly based upon the mercurials.

Dr. J. H. Stallard thought that in syphilis a mild course of mercury should be kept up for at least one year after reception of the initial lesion.

Dr. M. C. O'Toole said that the most obstinate cases of ocular trouble, attributable to a specific cause, had happened in persons addicted to the habitual excessive use of alcohol. He never had seen a specific case of partial degeneration of nerves of the cerebro spinal centre that did not receive benefit from inunction, but it was otherwise with the sympathetic system.

Dr. Goodfellow, who had been invited to take part in the discussion, said that when traveling through Mexico he visited several towns, in none of which, within the memory of man, there had ever been a physician. He saw many cases of syphilis and many persons who had suffered from it, all doing so well without treatment that he was led to believe that syphilis is a self-limiting and self-curative disease, doing comparatively little damage. In Arizona, on the other hand, he saw many tertiary cases in men who had been partially treated and he thought that the effect of treatment was to make them worse.

Dr. F. B. Kane did not like to treat visceral syphilis with mercury; he preferred the iodides, as he agreed with Hutchinson that the tertiary stage is not syphilis, but new formations left by syphilis. The cases in question would come under this head, and under such circumstances he had found iodide succeed where mercury failed. He would like to ask Dr. Goodfellow whether the comparative immunity of the Mexicans might not be due to a hereditary protection ; just as among the Portugese the disease ran a milder course from this cause. There was, no doubt, that syphilis, like many other diseases, was self-limiting and left no more frequent sequelæ than small-pox, scarlet fever and similar conditions.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

First Triennial Meeting Held in Washington September 18, 19 and 20, 1888.

First Day—Tuesday, September 18th—Afternoon Session.

Report of the Executive Committee.—The meeting to receive the report of the Executive Committee and for organization, was held at 1 P. M. Tuesday, in the Grand Army Building, and was called to order by **Dr. William Pepper**, of Philadelphia, Chairman of the Executive Committee. Dr. Pepper said: On behalf of the Executive Committee, I have to announce the manner in which we have discharged our responsible duty. The present meeting is the result of prolonged deliberation which began to take shape more than four years ago, before the attention of the medical profession became occupied with the preparation of the meeting of the International Medical Congress, but all action was deferred in order that there should not be the semblance of interference with that important meeting. This delay has served to render more conspicuous the necessity for this organization. In order to produce the best scientific results, it is essential that the members in attendance shall be reasonably limited, and that as far as possible the same men shall attend successive meetings securing a continuity of intellectual life and activity. A large proportion of those interested in the development of such an organization are, as I am myself, warmly attached to the American Medical Association and determined to exert their influence to maintain and promote the success of this great national organization. Your Committee ventures to hope that their provisions will meet the unanimous approval of the Congress. We have recommended that the sessions shall be triennial. We have jealously guarded against the admission of parliamentary business, the functions of the Congress are designed to be absolutely or exclusively scientific. We have also guarded the independent sovereignty of each participating society. Lastly the Executive Committee has reached the conclusion that the selection of the president of each Congress shall be intrusted to the Executive Committee then in office. Close study of the conditions of this Congress have led the Committee to feel that if this organization was to have the effect of favoring the multiplication and subdivision of special societies, it would be nothing less than a calamity. We have, therefore, provided that the admission of new associations shall be secured only by the unanimous vote of the Executive Committee. It remains only to add that in exerting the privilege of selecting a President for the first Congress of American Physicians and Surgeons we feel that we have been guided to the choice of a man whose admirable personal character, whose high attainments and whose illustrious services in the cause of literature of science and of the entire medical profession, mark him as entitled to this great honor and distinction. It gives us, therefore, the utmost gratification to present to you our President, Dr. John Shaw Billings, and to announce that the Congress of American Physicians and Surgeons is now duly organized.

The President, DR. J. S. BILLINGS, then took the Chair and responded in a brief address.

The Address of Welcome was delivered by DR. SAMUEL C. BAREY, of Washington.

By-laws.—The consideration of the By-laws was then taken up. Their provisions are as follows: The organization is to be known as the Congress of American Physicians and Surgeons and to be composed of National Associations for the promotion of medical and allied sciences. The sessions will he held triennially in the city of Washington. The officers are a President, Vice-Presidents, Secretary and Treasurer and an Executive Committee. The Executive Committee, composed of one member elected by each participating society, shall have charge of the duties pertaining to the organization and preparation of the Congress, including the election of officers and a committee of arrangements. It shall superintend the publication of the transactions. The expenses of the Congress shall be borne by the participating societies. New associations shall be admitted by unanimous vote of the Executive Committee.

EVENING SESSION.

The Medical Relations of Acute Intestinal Obstruction.—DR. REGINALD H. FITZ, of Boston, selected as the subject of his paper the diagnosis and medical treatment of the acute internal, mechanical varieties of intestinal obstruction. The only causes recognized were strangulation from adhesions, vitelline remains, peritoneal slits, pockets and rings; intussusception, twists and knots; abnormal contents, strictures and tumors. The evidence presented resulted from an analysis of 295 cases, collected from medical literature since 1880. The most constant symptoms of obstruction were shown to be pain, vomiting, tympany and tumor. Stoppage of the bowel was not regarded as the most essential symptom in diagnosis, since frequent loose stools characterize intussusception and may occur in other varieties of obstruction. Too much attention directed to this symptom leads to erroneous diagnosis, since it is of frequent occurrence in peritonitis, and often results in irrational and injurious treatment. The physician is called upon to decide whether the given case is one of acute obstruction, then its seat and cause, and finally what is to be done. The evidence offered showed that the diagnosis was to be made by excluding the various causes of peritonitis. Its seat in the large or small intestine was to be determined by injections, under high pressure, when necessary. The variety was, for most practical purposes, an intussusception; or a twist of the large intestine and strangulation, or gall stones in the small intestine. The differential diagnosis depended on the relative frequency of these varieties, the age of the patient, the antecedents and immediate symptoms. The treatment consisted in the attempt to relieve intussusception of the large intestine by forced injection under anesthesia with massage, and to treat obstructing gall stones by opium, possibly with the aid of laxatives and electricity. All the other varieties of acute obstruction require surgical treatment. The latter treatment is also necessary on or before the third day in cases of intussusception not yielding to forced injections, and in gall stones when the symptoms become urgent.

The Surgical Treatment of Intestinal Obstruction.—This paper was read by Dr. N. SENN, of Milwaukee. He claimed at the beginning that all cases of true intestinal obstruction are, in every sense of the word, surgical affections. Intestinal obstruction is present when, from mechanical or from dynamic causes, the intestinal canal becomes completely or partially imperforate, interfering completely or partially with fecal circulation. It is important that a distinction be made between the cases due to mechanical and those due to dynamic causes. In the former, the surgeon is expected to modify the mechanical cause; in the other, the surgical treatment is limited to diminishing intra-abdominal pressure. Cases of internal intestinal obstruction should be considered in the same light as cases of strangulated hernia. The time that such a case may safely be permitted to go without operation varies. In some, twenty-four hours will suffice for the occurrence of irreparable pathological changes; in others, a much longer time may be allowed to elapse. Operation should be performed as soon as the diagnosis is made. The surgical resources in the treatment of internal obstruction were taken up seriatim. *Irrigation of the stomach* was first referred to. All forms of intestinal obstruction, no matter what the cause, are aggravated by anything that increases the hydrostatic pressure on the proximal side of the obstruction. Irrigation of the stomach relieves this, and also diminishes the intra-abdominal pressure; it not only empties the stomach, but evacuates the contents of a number of feet of the intestine. It, however, will not do to rely upon this as a radical measure, except when the cause of obstruction is of a temporary character. This measure should always be performed before operation, as it prevents vomiting. An antiseptic solution should be used in the irrigation. *Distension of the intestine with fluid:* The mechanical effects of this measure are limited to the colon. The fluid does not pass beyond the ileo-cecal valve. Why should we not in these cases resort to the lightest possible substance known, hydrogen gas, which is harmless, readily obtained and aseptic? A pressure of one-fourth to two pounds to the square inch overcomes the resistance of the ileo-cecal valve, and forces the gas from the anus to the mouth. A pressure of eight to ten pounds to the square inch is required to produce palpable injury of any of the coats of the intestine. If perforation takes place, there is at once a positive indication for opening the abdomen. The fact that perforation has occurred is shown by the disappearance of the liver dullness. *Manual exploration* by the rectum is a useful diagnostic and therapeutic measure where the obstruction is below the sigmoid flexure, provided the surgeon has a small hand. *Taxis and massage* should be limited to cases where the obstruction is due to intra-mural causes, and to a few cases of invagination. Uniform, uninterrupted, equable *pressure of the abdomen* is useful in preventing hyper-distension in those cases especially where dynamic causes are feared. *Enterotomy*, so frequently practised in the past, he hoped had become very nearly obsolete. It should only be employed when it is clear that the patient will not be able to pass through the ordeals of laparotomy. *Lumbar Colotomy:* In cases where this operation was formerly employed we can often, by uniting the portion of bowel above the obstruction with that below by means of decalcified bone plates, avoid the necessity for colotomy. He had specimens showing that a dilated, congested bowel can be repaired when excluded from the fecal circulation in this way. The author had in the past eight months performed gastro-enterostomy in four cases by this method. In all of these cases the operation was a success, although in one case the patient died because the operation had been postponed too long. In one case the advice of Leucke had been followed, and the first presenting portion of the bowel had been fastened to the stomach. The patient continued in good condition for nine days when symptoms of obstruction came on and he died in three weeks. It was found that the connection with the bowel was eight feet below the pyloric orifice, and that the movements of the bowel had produced a sharp flexion of the intestine causing obstruction. Gastro-enterostomy in incurable carcinoma is a safe operation and one which the surgeon owes to all such patients.

Dr. Arthur Durham, of London, had taken much interest in this subject. There is no class of cases which are more serious or more dangerous than those of intestinal obstruction. He agreed with Dr. Senn, that usually in these cases, the sooner the surgeon is called the better. As soon as the diagnosis is made the operation should be performed. In some cases it should be done before a positive diagnosis is reached, and in order to clear up the diagnosis. Under such circumstances the surgeon must be prepared to meet the indications that present themselves. In trying to reach a diagnosis, the probabilities in favor of this or that condition, based upon statistics, should not influence us; but the case should be studied on its own merits and treated on the indications before us. In regard to the injection of hydrogen gas, he suggested the possibility of the formation of explosive compounds and thought that atmospheric air might be substituted. He recommended that in cases of acute obstruction in which there is reason to believe that the cause is in the small intestine, provided the symptoms are severe and urgent, the proper thing, even if an absolute diagnosis has not been made, is to open the abdomen and search for the cause and relieve it as best we can. On the other hand where the cause is in the large, rather than the small intestine, there is not the same degree of urgency. He strongly advocated lumbar colotomy in certain cases. In some cases after colotomy there has been a gradual restoration of the bowel and the patient has recovered completely.

Dr. William Ord, of London, admitted that there was often a great deal of difficulty in the diagnosis. He was in favor of the views of Dr. Fitz and claimed a little time before resorting to operation. In some of these cases under the use of hypnotics and time the cause of obstruction had disappeared. When, however, there is mechanical obstruction the case must sooner or later go into the hands of the surgeon. This time should be a short one. The operation is a serious one especially in people over fifty years of age. He had often seen the operation performed, and frequently fail, in those cases where there was the most reason to expect success.

Mr. Thomas Annandale, of Edinburgh, said that these cases of obstruction should be divided into two classes, the acute and the chronic. In acute cases medical measures should be tried, but not continued too long. If the symptoms are urgent the surgeon should be called at the end of 48 hours; the sooner the abdomen is opened the better. In the chronic cases we may wait a considerable time, even until the symptoms become acute. The treatment should then be that applicable to a case of acute obstruction. He had largely given up lumbar colotomy which he had employed more particularly in rectal obstruction, and resorted to inguinal colotomy as a simpler and not more serious operation in most cases.

Dr. N. Senn, in closing the discussion, stated that there was not the least danger in the use of hydrogen gas. He had performed many experiments on animals and had used the procedure in man. In cases of intestinal perforation it aids the diagnosis and allows the surgeon to determine whether or not all the openings have been closed. In a recent case of gun-shot wound, eleven openings near the ileo-cecal valve were closed, and a twelfth was revealed by the hydrogen gas at the point where the peritoneum is reflected from the bowel to the bladder. The patient is doing well one week after the operation.

SECOND DAY—WEDNESDAY, SEPT. 19TH—EVENING SESSION.

Cerebral Localization in its Practical Relations.—**Dr. Charles K. Mills**, of Philadelphia, read a paper on this subject. In his introductory remarks, the speaker referred to the fact that from the clinical observation of practical physicians sprung the conceptions out of which developed the science and art of cerebral localization. Allusion was made to the discoveries of Bouillaud and Broca on speech localization; to the announcement by J. Hughlings Jackson in 1864, that certain convolutions superintended the delicate movements of the hand which were under the immediate control of the mind and to Hitzig's researches having originated from his observing certain ocular movements during galvanization of the heads of his patients. Brief reference was made to the history of American work in localization; to the investigations in 1874 of the New York Society of Neurology and Electrology; to Putnam's discovery that irritation of the white matter beneath definite cortical centres, produced movements similar to those caused by irritation of the centres themselves; to the labors of Wood and Ott on the heat centres and the light thrown by these investigations upon the mechanism of fever and the action of drugs upon different forms of high temperature. Turning to the surgical aspect of cerebral localization, he considered first the forms of disease and injury in which it is a valuable aid to diagnosis; and secondly, the topographical diagnosis of the parts of the brain accessible to surgical interference with some sources of error in such diagnosis. The forms of disease in which such diagnosis has been used, are intra-cranial tumors, cysts, fractures, hemorrhages, abscesses, and discharging cortical areas. In considering the localization of brain tumors, Dr. Mills referred to 20 cases of autopsies occurring in his own personal experience in about one-half of which the tumors were in surgically accessible areas and in at least one-fourth successful operations might have been performed. He advocated from this experience the excision of old gummata, and also, in special cases, of tubercular growths. The value of localization was shown in cases of fracture when the extent of the unseen damage could not be told by the position and character of the visible lesions Of the different forms of intra-cranial hemorrhage, sub-dural, cortical and intra-cerebral, were most amenable to localizing diagnosis. The rules for the local diagnosis of these forms of hemorrhage were then given. Dr. Mills advocated the performance of trephining in exceptional cases of hemorrhage into the ganglia and capsules—cases in which symptoms indicated that the bleeding had not broken into and inundated the ventricles. From the sections, the best site for operation in such cases all things considered, would be in the anterior portion of the first or second temporal gyrus. He favored Hughlings Jackson's suggestion of excising localized cortical areas even when coarse lesions could not be made out, in cases of spasm, beginning locally or deliberately. The inaccessible areas had been narrowed down by the venturesome surgical explorer and had become reduced to the middle regions of the base and its bordering convolutions, the corpora quadrigemina and the pons.

The old method of subdividing the motor zone into three elliptical or circular areas from above downward was considered insufficient; but the neurologist should be able to locate for the surgeon from a study of motor phenomena, at least seven or eight positions for trephining; these positions being selected by a close study of the initial or signal symptoms, the serial order of movements, and also of the amount and character of the temporary paralysis after the seizure and the method of extension of the persisting palsy. Dwelling upon the sources of error in motor localization, the question of reflex spasm, of unilateral convulsions due to uremia, lead and other toxic agents, and to hysteria and hystero-epilepsy, were briefly discussed. Sufficient diagnostic difficulties are still present to make it important in the light of the tremendous impetus towards operation, to carefully examine all questions of differential diagnosis. In certain spasmodic affections, the resemblance between those clearly of reflex origin and those as demonstrably central, was very striking.

With reference to sensorial localization, cutaneous and muscular, the speaker believed that the evidence was becoming stronger every day in favor of the existence of a zone for the sensations of touch, pain and temperature, separate from cortical motor areas. His view was that the region for general sensation, including touch, pain, temperature, and, perhaps, pressure, location and muscular sense, could be divided into special areas for the various distinct portions of the body, and that these centres lay alongside and had close anatomical and morphological relations with corresponding motor centres, but that they were not identical with them. He located these sensory areas in the gyrus fornicatus, the hippocampal gyri, the pre-cuneus and the lateral postero-parietal region. The practical conclusion was, that the neurologist and surgeon must depend upon motor symptoms alone in fixing the site for operation in cases where the motor lesions were definite. When positive sensory symptoms were present, they might sometimes serve to aid in locating more exactly the position for operation, but the data were not sufficient for positive reliance. Dr. Mills concluded by saying that the discoveries in cerebral localization with the achievements in antiseptic surgery, constitute the greatest triumphs which adorn the history of the noble science and art of medicine.

Cerebral Localization in its Surgical Relations.—DR. ROSWELL PARK, of Buffalo, read a paper upon this subject. The essay was devoted purely to the surgical aspects of the subject, and omitted consideration of those cases in which operation is dictated by a study of the subjective, rather than of the objective features.

Cerebral Topographical Anatomy.—The areas which most concern the surgeon, are those which cluster around the fissure of Rolando. A few bony prominences deserve attention in this connection: that of the point of the nose known as the glabella; the external occipital protuberance, known also as the inion; the point of the vertex, half way between these two, the bregma; the external angle of the orbit, the tip of the mastoid process, and the lower border of the alveolar process of the upper jaw. The fissure of Rolando has its upper end about five centimètres back of the bregma, but does not run quite in the middle line; its lower end lies about a half centimètre behind the auriculo-bregmatic line, and a little above an imaginary line, projected backward from the superciliary ridge—thus the lower end of this fissure will be found about six centimètres above and a little behind the external auditory canal, or about an inch behind the bifurcation of the fissure of Sylvius In regard to the convolutions, it must be stated that lesions of the dura mater overlying motor areas are not always to be distinguished from lesions in the cortex beneath. It is enough for the surgeon that a lesion of some kind can be located with reasonable accuracy. It matters not whether this is an old, irritative lesion, an acute suppurative process between the bone and the brain, or an abscess or tumor of the brain itself. The indication for exploration is just as strong in either case.

When and Where one can Trephine with Safety.—The safest rule is to first apply the trephine over those areas which do not overlie large vascular channels. Afterward the opening may be extended in any direction and to any required extent. The greatest hesitation is with regard to opening one of the sinuses. Two dangers attend such an accident—one, fatal air embolism; the other, profuse hemorrhage. The former danger is almost a theoretical one, and the other may be overcome by plugging the sinus or closing its wound with a fine needle and suture.

Cerebral and Cerebellar Abscess.—Bergmann has shown that abscess of the brain has but one result—death; and that the surgeon's knife offers the only relief. So far as we know there is no such thing as idiopathic abscess of the brain; it is always the result of some external wound of the head or some extension from diseased surrounding bone. The only exceptions to this statement are to be found in the case of pyemia or tuberculous abscess. The symptoms of deep brain abscess may be divided into three groups, according to causes: 1. Those which are inseparable from indications of suppuration; such are those disturbances which may follow any deep-seated foreign body. 2. Symptoms of increased intra-cranial pressure and of disturbed relations. 3. Special symptoms by which the locality of the disturbance may be ascertained. So long as the gray matter is undestroyed, the collection of pus may assume large dimensions, and still no intense motor symptoms appear. Local elevation of temperature over the abscess is a symptom of importance, when present; but its absence need not negative a diagnosis, if made on other grounds. Wernicke has stated that there is a peculiar disturbance of speech which points to lesion of the temporal region. This is the confusion of correct with incorrect words. In the general diagnosis of cerebral abscess it is to be remembered that there usually is a latent period which may continue for an indefinite time. The stage of active symptoms is usually ushered in by more or less headache; slight rise in temperature. Local or ~~motor~~ symptoms can only be expected when the abscess is in the motor area of the brain. In operating for abscess of the brain operators until recently have satisfied themselves with incising the dura, and doing nothing more. With the introduction of aspirating methods, the hollow needle came to be used for brain exploration. The dangers of this procedure are certainly small. The danger of hemorrhage has been over-estimated. A temporary tampon will control deep hemorrhage, while in bleeding from the pia-mater the vessels may be secured with ligatures or serefines. In brain abscess consequent upon middle ear lesion, the best point to trephine, according to Bergmann, is above and behind the ear. Macewen proposes a second counter-opening on a level with the floor of the abscess.

Brain Tumors.—The principle features of these growths which produce symptoms are, location, size, character, rapidity and manner of growth and extent to which they affect surrounding brain tissue. Considered in their surgical relations we may, with Bergmann, divide them into (*a*) the circumscribed or encapsulated, and (*b*) the infiltrated or diffuse, around which, as a rule, there is a zone of softening. A third class may be mentioned, *i. e.* those growing from the interior of the cranium, from the bone or dura. If a reasonably satisfactory diagnosis can be made, it must be indeed an extensive growth of the cranial vault. which shall contraindicate operation. The question of what and how many brain tumors are amenable to operation has been best answered by White. He found in one hundred brain tumors met with in the dead-room of Guy's Hospital, that only nine could have been removed—one tuburculous nodule, four sarcomas, two undetermined tumors, one cyst and one myxoma. Nine per cent. could have been attacked, providing a fairly accurate diagnosis had been made. Of these nine tumors five were located in the cerebellum one in the frontal lobe and one in the extremity of the occipital. It is doubtful whether these seven could have been recognized accurately enough during life to justify operation, while the myxoma was impossible to diagnose. It is thus seen that by no means all tumors which can be diagnosed can be deemed suitable for operation.

DR. DAVID FERIER, of London, said that he took especial pride and satisfaction in the fact that this subject had been assigned such an important place in this great gathering of the profession in this country. He had long cherished the idea that the determination of the functions of the brain, would in time lead to the successful treatment by surgery of some of the most distressing ailments of our fellow creatures. When he first broached the possibility of this, he received little encouragement, but now cerebral surgery had become a distinct branch of the art of surgery. There is a great future for cerebral surgery. We must, however, be cautious, lest we do things which our better judgment and larger experience may not consider altogether justifiable. While there have been many successes, yet there had been some failures. He alluded more particularly to cases of Jacksonian epilepsy. The discharging lesion has been removed in many of these cases, without permanent cure. Care must also be taken that in curing one affliction we do not induce a greater evil. There is yet much to be learned in regard to the functions of the brain, and in regard to the diagnosis of cerebral disease,

MR. VICTOR HORSLEY, of London, described briefly the results of his experiments upon the motor region. He believed that here three functions were clearly represented; 1. The representation of the so-called tactile sense; 2. Representation of the so-called motor sense; and, 3. The great representation of movement. It is found that morphologically the large cells in the fourth layer are concerned in the representation of movement, and he could not understand why we should not allot to the small cells in the upper layer the representation of sensation. He had divided the motor region into minute areas, and studied the effect of irritation of these separate areas. He had found that the representation for any part was not limited to one minute portion of the brain, but that there was a focal point where it was strongest, and then it gradually diminished as we passed outwards. In his different experiments he had met with certain points of difference. These were attributable to the employment of different species of monkeys. He now uses only the bonnet monkey, and for all practical surgical purposes, the results are perfectly applicable to man. Experiments performed during the past summer, had enabled him to prove that the convulsions of so-called Jacksonian epilepsy were solely due to the cortex, and not at all dependent upon the spinal cord or upon the bulbar spinal system. In cerebral surgery, we practise simply the ordinary rules of surgery. In cutting out the bone, a one inch trephine should be first used to determine the thickness of the skull. The surgical engine may then be used, to cut almost through the portion of bone to be removed. The bone may then be removed with strong forceps. The dura mater should be first separated. If nothing is found, and the operation is an exploratory one, the dura mater should be opened. If we propose to use faradism for the recognition of certain areas, it is important that the ordinary antiseptic solutions should not be applied to the brain, for they tend to prevent the response to the electric current. Parenchymatous hemorrhage may be prevented by the use of morphia. The ligature must be always applied if possible; never pack the wound. In regard to the recurrence of epilepsy, in operations performed for the relief of this affection, he considered that the recurrence was due to incomplete operation. In those cases in which he had removed to his own satisfaction, not only the lesion, but the surrounding brain substance for at least one centimètre, there had been no return. He agreed with the previous speaker, that there was danger of doing too much in certain cases.

DR. M. ALLEN STARR, of New York: It is evident from the statements just made that cerebral surgery has a great future, but is dependent on neurology for its guide. The burden of responsibility for future progress rests upon physicians, for diagnosis must precede operation. The great discoveries in cerebral localization made in the past have been reached by means of the collection and analysis of large numbers of cases of localized disease in man, rather than through physiological experiment. Future advance must be in the same line; hence the importance, too much overlooked in this country, of recording carefully every case of cerebral disease; and to be properly recorded it must be carefully examined. This is especially necessary in the cases of disturbances of speech. The history of aphasia presents three epochs: First—That of Broca, in which the fact was established that lesions of the third frontal convolution on the left hemisphere produced aphasia; Secondly—That of Wernicke, in which a distinction between sensory and motor aphasia was drawn, and the former was shown in a few cases to be due to lesion of the first temporal convolution; Thirdly—That of Charcot, in which the four mental elements of speech were carefully separated. Charcot says: "A word is a complexus. In it we can discover, in persons of education, four distinct elements: the auditory memory picture, by whose means we are able to grasp the sense of words heard; the visual memory picture, which enables us to comprehend the words written or printed; and also two motor elements—the motor memory of articulation and the motor memory of writing; the first developed by the repetition of movements of the tongue and lips necessary to pronounce a word; the second by the practise of motions of the hand and fingers necessary for writing." Each of these memories, being distinct, can be lost. The result is disturbance of speech, whose forms vary. The loss of visual memories produces verbal amnesia and word blindness; the loss of auditory memories causes word deafness; the loss of motor memories of writing results in agraphia; the loss of motor memories of pronunciation produces motor aphasia. Individuals differ largely in the degree of cultivation of each of these memories, and hence suffer differently when affected by their loss, *e. g.*, the literary man presenting far more symptoms than a common laborer when his memories of things read are lost. Another fact of importance is the independence of speech and thought. Aphasics may retain their musical faculties and may sing when they can not talk. Thinking, though largely done by the aid of speech, is not dependent upon it. We have memory pictures of the shape, form, sound, and odor of objects, independent of their names, and unless these are intact in the brain the perception of the object does not produce recognition of its nature or use, and does not awaken the memory of its name. The condition termed apraxia is found with aphasia in some cases, but not in all. Turning from clinical distinctions to pathology, the localization of the various memories necessary to speech was discussed. Motor aphasia is produced by lesion in Broca's centre, or in the tract from that centre to the cranial nerve nuclei. If it is due to lesion in the latter, it is temporary and accompanied by other local symptoms. The situation of the lesion producing motor agraphia is uncertain. Word deafness is due to lesion in the first temporal convolution, and is associated with word blindness when the lesion extends to the supra marginal convolution and angular gyrus. All the cases of pure sensory aphasia in which the lesion was limited to these parts (forty-one in number) were collected, and a chart of the brain was shown to support the localization stated. The condition of apraxia was shown to accompany lesions situated in or beneath the angular gyrus. The integrity of the connecting tracts between the various memory centres is also necessary to the act of speech. These can be tested, thus: repetition after another, copying, writing at dictation, and reading aloud are acts involving two separate areas and their connecting tract. Lesions of these tracts produce disturbances of speech, some of which Licktheirm has described. But cases have not yet been sufficiently well tested to warrant any conclusions. The necessity of careful examination of all cases, to detect various defects, was dwelt upon, and the speaker closed by indicating how readily accessible to surgical interference the speech areas of the brain are.

DR. W. W. KEEN, of Philadelphia, compared the head cavity to the other cavities of the body. The brain may be considered to be made up of a number of viscera having separate and distinct functions, and each of which has its own physical signs and symptoms. While we should be careful not to do too much, we should not err in the other direction. The timidity with which the surgeon formerly approached the abdominal cavity was remarkable; the boldness with which we now attack the lesions of this cavity is almost appalling and the success equally gratifying. This history will be repeated in the case of the brain.

DR. ROBERT F. WEIR, of New York, had, since 1883, operated in ten cases of brain surgery. Three times for tumor; three for abscess; twice for hemorrhage into the cerebrum, where there was no external injury to indicate its locality; once for epilepsy and once for cerebral pain. In the last case the tumor was so deep that there was nothing to indicate its presence after the brain was exposed. It was one and a half inches below the surface. The growth proved to be a sarcoma. The operation was performed last November. The patient is still living, but there are signs of a recurrence of the growth. Bergmann says that operation should not be performed when the patient is in coma or where the tumor is large. Dr. Keen has removed a tumor weighing over four ounces, with recovery, and Mr. Horsley has removed with success a tumor weighing four and a half ounces from a patient in a state of coma. Sometimes, although no tumor is found, the operation causes disappearance of the symptoms by relieving the pressure; this might be applicable in apoplectic hemorrhage where the clot could not be removed. I have gone over the brain to find what parts are accessible to surgical interference. We are able to strip up the longitudinal and lateral sinuses to a considerable extent. The dura-mater may be separated for a considerable distance from the bone. He had been able to raise up the frontal lobes so as to see the anterior clinoid processess and he had been able to feel the foramen magnum.

THIRD DAY—THURSDAY, SEPTEMBER 20TH—EVENING SESSION.

President's Address.—The President selected as the subject of his address "Medical Museums, with Special Reference to the Army Medical Museum at Washington." The museum, which in point of mere number of specimens was one of the eight largest in the world, owed its inception to Dr. Wm. A. Hammond, who, when Surgeon-General in 1862, issued a circular directing the army medical officers to collect and forward everything that might be regarded as valuable in that connection. At first the museum was limited to military medical subjects, but its scope had now been greatly broadened. It should include hygiene and materia medica in a general sense. A series of specimens showing the normal anatomy of the domestic animals used in experimental investigation as well as specimens in embryology from the lower animals were needed. The specimens formerly valued for illustrating anatomy were dried and varnished dissections; these are now regarded as almost useless. Dissections under alcohol mounted in opaque dishes with glass covers, and sections of frozen bodies were now the rule. Of these the museum had some excellent specimens. Regarding the pathological section, he alluded to the varying aspect which it presented to different observers, "no doubt much of the ancient pathology and much of that which was quite recent is comparable to looking in the dark for a black spot which is not there." However, medical men who despised pathology and devoted their entire attention to symptoms and treatment, erred as much as those who went to the other extreme. To secure pathological specimens in their most instructive form it would be necessary to have a considerable variation from the routine methods of *post-mortem* examinations. Everything should be conducted with a view to the ultimate destination of the specimen, and there was need of a special treatise on this subject. He urged upon medical men engaged in private practice the advisability of obtaining and forwarding to the curator, pathological specimens presenting interesting features; and upon those engaged in this subject in connection with schools, to forward such specimens as they already had in duplicate. In this way the museum would grow rapidly and the great value of these specimens as "object lessons" would be more fully realized. The same course should be adopted in connection with instruments and surgical appliances and there would soon be a representative collection if every inventor forwarded a sample of the result of his ingenuity. He mentioned the great value attaching to some of the special collections, especially that in connection with the late war. These could never be duplicated, and they illustrated results obtained when antiseptic surgery was unknown. The annual appropriation for the museum was $5,000; it was sufficient, but it should not be cut down. More funds were needed for providing catalogues with descriptions of the specimens, without which the amount of information to be derived by a visitor was merely that which he could see in them.

SPECIAL CORRESPONDENCE.

NEW YORK.

[FROM OUR OWN CORRESPONDENT.]

Rupture of the Diaphragm.—Protrusion of the Stomach and Spleen into the Thoracic Cavity, with Compression of the Lung.—A Training School for Male Nurses.—Bellevue Hospital Chapel and Library.—Anecdote of Dr. Agnew.

A remarkable case of rupture of the diaphragm was related by Dr. N. W. Leighton at the recent summer meeting of the Fifth District Branch of the New York State Medical Association. The Fifth District includes the cities of New York and Brooklyn, and is composed of the counties on Long Island and Staten Island and along both banks of the Hudson as far north as Ulster and Dutchess, inclusive. The annual meeting of the Branch is held in Brooklyn in the month of May, and in addition there is always at least one special meeting during the year, which is usually held in the latter part of the summer. These special meetings are held in various parts of the District, and the opportunity is thus afforded the members for many pleasant excursions to gatherings of the profession, where scientific proceedings are combined with enjoyable social reünions. On this occasion the place selected for the meeting was Babylon, Long Island, which is one of the great headquarters for all New Yorkers interested in aquatic sports.

In Dr. Leighton's case the patient was a married lady, 28 years of age. He was called to see her in haste on a Sunday, and found her suffering with severe pain in the epigastrium, nausea and dyspnea, while the expression on her countenance indicated anxiety and fear. He learned that she was in her usual health in the morning, had been to church, and afterwards taken her dinner, a part of which consisted of fried scollops. Concluding that she was suffering from colic in consequence of embarrassed digestion, he directed that some powdered ipecacuanha should be given her in a glass of warm water; but found that she was unable to swallow this. He tried other simple remedies, necessarily with the same result, and then, believing that the dyspnea was due to gaseous distension of the stomach and the dysphagia and other nervous manifestations to hysteria, he left the house for a short time; previously urging the patient's friends to persist in having her try to swallow some of the ipecac. mixture. Returning in less than half an hour, he found to his surprise that the patient was dead.

At the autopsy, which was made twenty-one hours after death, Dr. Leighton found an opening in the diaphragm, on the left side, through which the stomach and the spleen had entered the left thoracic cavity. The stomach was distended, filling the entire cavity with the exception of the space occupied by the spleen below and left lung above, where the latter was compressed into a mass about the size of a large orange. The stomach contained the partially digested meal taken a few hours before death, and the walls of the organ were tense from the pressure of the gas contained within them. The heart was pushed to the right of the median line. The opening through the diaphragm was sufficiently large to admit four fingers, side by side; while the edges of the ruptured muscles were thickened and rounded as if cicatrization had taken place a long time before the fatal ending of the case.

It was learned from her husband that the patient had had a very severe labor about seven years before, and that during the last expulsive pains she had complained that she "felt something give way inside her." Since then she had had numerous attacks of colic and of indigestion with nausea; but she was never able to vomit. She was never again pregnant. It was the conclusion of the physicians present at the autopsy that the rupture occurred during parturition seven years before, and that the accident had run until now without giving rise to any great inconvenience, except the inability to evacuate the stomach when nausea and embarrassed digestion required it. During the fatal attack it seemed probable that the stomach, by its muscular movements or by its distension with gas, was forced through the ruptured diaphragm, and continued to expand until it forced the latter downward, dragged the spleen into the thoracic cavity, pushed the heart to the right of the median line and expelled all the air from the left lung. To what extent the displacement of the organs had taken place at death Dr. Leighton stated that it was impossible to say; but there was no doubt in his mind about the entrance of the stomach into the thorax after the patient's last meal and before her death.

There has recently been opened in connection with Bellevue Hospital, a training school for male nurses, which, it is believed, is the first of its kind in the world. For this valuable institution the city is indebted to the liberality of D. O. Mills, Esq., and on the occasion of the formal transfer of the new building to the municipal authorities the principal address was delivered by the Hon. Chauncey M. Depew. The structure stands on the Hospital grounds and cost Mr. Mills about $100,000. It is five stories in height, and in addition to fifty sleeping apartments, the administration rooms, dining-room, kitchen, etc., it will contain the Hospital museum. In his letter to Mayor Hewitt, conveying the institution to the city, Mr. Mills wrote: "The Training School for Female Nurses was a great gain. Personal observation of the good it has done led me to think that an equal service might be rendered by an institution for the training of male nurses. The humane work of the physicians in charge of Bellevue and other city hospitals, could thus be efficiently supplemented, and the sufferings of the poor under their care alleviated, while the community would gladly employ all the male nurses the hospital could spare, and so enable the students thus trained to make the vocation of nursing their life-work."

Another needed addition to Bellevue Hospital is a handsome chapel and library, which is now in course of erection and which is the gift of Mrs. R. H. L. Townsend, the lady who last year presented to the institution a pavilion devoted exclusively to operative procedures on female patients.

In the course of his eulogy on the lamented Agnew. delivered before the Academy of Medicine early in the summer, and which has now been issued by the Academy in pamphlet form, Dr. T. Gaillard Thomas relates the following characteristic anecdote: "A missionary calling to see me concerning his wife, by the advice of Dr. Agnew, to whom he had come for council about his eyes, from distant lands, told me this story. He had seen the famous oculist five times during a period of as many weeks, and having her cured of the ailment which had caused him to leave his distant charge, had that very day, in much fear and trembling, asked for his bill. The doctor appeared to be pressed for time, and less communicative than usual. He sat down, rapidly wrote a note, put it in a sealed envelope, and handed it to him with the words: 'Here is your bill, do not open the envelope until you get home, when you may examine it at your leisure. Good day, sir.' As may be supposed, the poor old divine, trembling for the fate of his meagre purse, no sooner got outside the doctor's door than he opened the envelope, to learn as quickly as possible the worst His surprise was great when he found enclosed a check for $25, drawn to his order; an amount equal to an ordinary charge for the five visits rendered to him."

NEW YORK, September 15, 1888.

PUBLIC HEALTH.

By W. R. CLUNESS, M. A., M. D., Sacramento, Cal.

Mortality.—The deaths registered in 63 town districts of the State during the past month, in a population of 731,100, correspond to an annual rate of 15.0 a thousand, the total mortality having been 914. 152 deaths were due to zymotic diseases, giving an annual death rate of 2.51 a thousand. Of these 42 were due to diphtheria, 30 to cholera infantum, 27 to typhoid fever, 18 to remittent fever, 13 to diarrhea and dysentery, 6 each to cerebro-spinal and typho-malarial fever, 4 each to whooping cough and erysipelas and 2 to scarlet fever. 206 deaths were attributed to diseases of the respiratory organs, giving an annual rate of 3.38. Of these 140 were due to consumption, 43 to pneumonia, 14 to acute bronchitis and 9 to congestion of the lungs. 62 deaths resulted from heart disease. The average annual death rate from all causes, occurring in the ten largest cities and towns in the State, and representing a population of 573,000, was 14.95, a fraction less than the average mortality throughout the State. The highest death rate for the month occurring in cities having a population of 10,000 or more inhabitants, was reported from San Francisco, having been 19.11; the lowest from Stockton, the rate having been but 7.20. Santa Ana reports the remarkably low mortality of 4.80, but as "the vicinity" is included we are unable to determine the number residing in the city proper.

Yellow Fever.—Since the last issue of THE MEDICAL TIMES, yellow fever, which had obtained a strong foothold in Florida, has appeared in Alabama, Louisiana and Mississippi, and serious apprehensions are entertained lest it might reach other adjoining States, or be conveyed to remoter ones possessing a climate suitable for its development. The most strenuous efforts are being inaugurated to prevent the entrance of all persons from infected districts into those that are unaffected, even a "shotgun quarantine" having been established in certain localities. When, however, we consider the wide area over which the disease has already extended, the many similar localities not far distant, the number of persons attacked, the alarm (almost amounting to a panic) of the hosts of people occupying the localities affected and their determination to flee from the pestilence, together with the subtle nature of the particulate producing it, we have but little hope of its being checked by human efforts, and believe the frosts of the approaching autumn will alone limit its spread. Ever since the first appearance of the yellow fever the most perplexing problem to the medical men has been the *cause* thereof, the *potential something* which, when it obtains lodgment in the soil suitable for its propagation, is capable of inducing the disease in question. Whether or not it be contagious, appears also to be still *sub judice*, yet that such a soil as favors the development of the germ, and such a condition of atmosphere as renders certain individuals susceptible to the inception thereof into their systems, culminating in what is known as yellow fever, exists at times in certain highly malarial districts, is indisputable. And that this specific germ or miasm can be generated *de novo* in ship-holds and upon shore, in damp, marshy and unhealthy districts, appears to be tolerably well established. (See lecture on the epidemialogical aspects of yellow fever by Robert Lawson, L. R. C. S. Ed. (*vide* TIMES, vol. ii, p. 197). It is maintained by many authorities that yellow fever is nothing more than a pernicious form of the ordinary malarial fever, modified only by the intensity of the exciting cause and surrounding influences, and appearing only during the prevalence of certain atmospheric conditions which tend to engender a state of the system favorable for its reception. It is observed by them that it very generally appears simultaneously with malarial fever, and in localities in which that form of disease prevails; and that the first cases always appear in those localities in which the malarial influence is sure to prevail in its severest form annually. While, however, such localities usually possess such influences as are capable of engendering malarial fever only, there can be but little, if any, doubt that the introduction thereto of the specific germ, engendered as stated, is necessary for the development of what is known as yellow fever. It has also been demonstrated, over and over again, that the mere introduction of the germs of yellow fever by means of individuals ill of that disease is not sufficient to cause its spread in a healthy locality; it must be unhealthy and the climate and surroundings of such a nature as to tend to the propagation of malarial influences. To residents of the Pacific Coast it therefore becomes of the utmost importance to know whether or not such a condition prevails as would favor the spread of the disease in question provided its specific germ were introduced. To this question we unhesitatingly give an affirmative assent, after a careful comparison of our climate during the summer and early autumn months with that of those sections already affected in Florida, Alabama and Mississippi. And there can be but little doubt that the residents of Sacramento and vicinity are especially ripe for the introduction of the germ, for there is such a combination of heat, moisture, and decomposing vegetation at present, not only in this immediate vicinity, but throughout the greater portion of all of the great valleys of our State, as favors the development of malarial forms of disease in a very aggravated form. Add to this the spark, the specific germ which has multiplied so rapidly and with such deadly effect in Jackson, Florida, and other neighboring localities possessing a climate, and whose prevailing diseases are similar to ours, and the probabilities are that we will have a visitation of yellow fever.

METEOROLOGY.

By J. W. ROBERTSON, B. A., M. D., Assistant Physician to the State Asylum for Insane, Napa, Cal.

Temperature.—During the month of August the heat was intense through the whole extent of the valley belt. The highest temperature noted was at Fresno, though in several other localities the thermometer registered over 100°. Along the coast and the modified coast the temperature was more moderate, the mean ranging from 68° at San Diego to 56° at Eureka. Along the coast a marked freedom from fog has been reported.

Rainfall.—A trace was reported from several stations in Central California. Further south the precipitation was measurable, as indicated in the appended table.

California—Tabular Statement for August, 1888.

STATIONS.	TEMPERATURE.						RAINFALL.		Mean Relative Humidity	WEATHER.			WIND.	FURNISHED BY—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn ....Cal.	79.5	105.0	54.0	......	......	......	......	0.00	......	......	......	......	S.	Southern Pacific Co.
Colfax............ “	76.8	100.0	58.0	......	......	......	......	0.00	......	......	......	......	N.	“ “ “
Eureka........... “	56.0	68.4	48.6	61.5	53.2	8.3	0	0.00	91.3	9	8	14	N.	Signal Service U.S.A.
Fresno............ “	82.9	111.1	56.1	101.5	64.6	36.9	1	trace	40.8	30	0	1	NW.	“ “ “
Keeler............ “	80.5	99.8	60.0	93.7	67.7	26.0	2	0.10	26.1	27	2	0	S.	“ “ “
Los Angeles.... “	67.6	97.0	51.3	86.8	59.2	27.6	1	0.10	......	23	8	0	W.	“ “ “
Monterey .... “	63.1	75.0	56.0	......	......	......	......	0.00	......	......	......	......	SE.	Southern Pacific Co.
Napa............. “	65.9	90.0	51.0	77.2	54.5	22.7	0	0.00	......	24	7	0	......	Sta. Napa Ins. Asylum
Oakland......... “	61.59	86.0	52.0	......	......	13.67	0	0.00	85.55	21	7	3	SW.	J. B. Trembley, M.D.
Paso Robles.... “	74.4	108.0	52.0	......	......	......	......	0.00	......	......	......	......	S.	Southern Pacific Co.
Red Bluff....... “	83.7	107.5	55.0	98.0	66.9	31.1	0	0.00	31.2	27	3	1	S.	Signal Service U.S.A.
Sacramento. ... “	75.4	107.5	51.0	94.5	59.2	35.3	1	trace	55.0	30	1	0	S.	“ “ “
San Diego....... “	68.4	82.0	57.0	74.6	63.7	10.9	1	trace	84.3	20	8	3	NW.	“ “ “
San Francisco.. “	57.8	85.1	50.8	68.4	53.1	15.3	0	0.01	83.2	13	16	2	SW.	“ “ “
Santa Barbara.. “	66.3	84.5	52.0	74.6	57.9	16.7	1	trace	77 8	28	2	1	W.	Hugh D. Vail.
Santa Cruz ..... “	64.4	88.0	55.0	......	......	......	......	0.00	......	......	......	......	S.	Southern Pacific Co.
Yuma...........A. T.	90.4	110.3	70.0	106.6	75.4	31.2	1	trace	43.4	27	2	2	S.	Signal Service U.S.A.

Blank (......) indicates data missing.

CLEAR DAY—One on which cloudiness is 3 or less on a scale of 10. FAIR DAY—One on which cloudiness is from 3 to 7. CLOUDY DAY—One on which cloudiness is over 7.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At the regular meeting of the Board of Examiners, held Sept. 5, 1888, the following physicians were granted certificates to practise medicine and surgery in this State:

Robert Thomas Allan, San Francisco; Univ. of Edinburg, Scotland, Aug. 1, '85.
Wm. Cornelius Bice, San Diego; M. Dep. Univ. of Louisville, Ky., Feb. 28, '59.
William Bull, San Francisco; Royal Coll. of Surgs. Edinburg, Scotland, Jan. 28, '76.
John R. Colburn, Los Angeles; St. Louis M. Coll., Mo., Mar. 8, '78.
Charles Sanford Dickson, San Diego; Chicago M. Coll., Ill., Mar. 20, '77.
Chas. Henry Douglas, San Diego; Bellevue Hos. M. Coll., N. Y., Mar. 1, '76.
Oscar D. Fitzgerald, Los Angeles; St. Louis M. Coll., Mo., Mar. 10, '72.
Henry D. Garvin, San Diego; M. Dep. Univ. of Buffalo, N. Y., Feb. '47.
Nathan Hunt, San Diego; M. Dep. State Univ. of Iowa at Iowa City, Mar. 6, '72.
Walter Palmer Miller, San Francisco; M. Dep. Univ. of Vermont, June 25, '83.
Benj. Baker Nesbit, Pomona; M. Dep. Univ. of Louisville, Ky., Jan. 31, '62.
Henry Howard Sherk, Pasadena; Jefferson M. Coll., Penn., April 5, '87.
Hamilton Stillson, Red Bluff; M. Dep. Univ. of Louisville, Ky., Mar. 1, '82.
Samuel G. Wilson, Los Angeles; Jefferson M. Coll., Penn., Mar. 12, '73.
Henry Bernhardt Weiper, Anaheim; Rush M. Coll., Ill., Feb. 19, '84.

The application of Edward Davison, of Woodland, filed July 10th, was rejected because of insufficient credentials. It was based upon a license from the Missouri Board of Health which credited him with having received a diploma from the Chicago Medical College, March 4th, 1860; but letters from that College say the records do not show that Edward Davison, or J. E. Davison, under which name he says he graduated, ever attended or graduated there. A report was received from the Secretary of the Homeopathic Board announcing the rejection by that Board of the application of A. Ballou, of Los Angeles, because of insufficient credentials. Ten incomplete applications were laid over that they might be completed by the next meeting. Unprofessional advertisements of Godfrey Beaumont, of San Diego, were received, and the Secretary was instructed to request him to withdraw the same, calling his attention to the requirements of the law, the rules of this Board, and the decision of the Supreme Court of this State in the case of Lowry *vs.* the Board of Examiners. The Secretary reported that besides the 1200 letters sent out on the first of August for information to be used in compiling the fourth edition of the *Medical Register*, 650 additional ones had been sent to tardy correspondents on the first of September, to all of which only about 750 answers have been received. Communications asking for information and blanks for prosecutions of illegal practitioners were received from San Diego, Los Angeles, Monterey, Sacramento, Yuba and Inyo counties. While the law stands upon our statute books it should be enforced. The profession looks to the Board of Examiners, as the central organization, for its enforcement; but it should be remembered that the legislature made no appropriation to defray expenses of this

Board, however incurred, hence effective work can be done only through the earnest coöperation of the medical profession throughout the State, with the assistance of the legal profession. We look especially to those in the latter profession whose oath of office impels them to support the laws of the State.

R. H. PLUMMER, Secretary.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific), from Aug. 16th to Sept. 17th, 1888.

Lt. Col. Basil Norris, Medical Director, will proceed to Fort Klamath, inspect the medical department at that post, and upon completion thereof return to these headquarters. S. O. 103, Dept. of the Columbia, Sept. 3, 1888.

Capt. J. D. Hall, Assistant Surgeon, ordered from Fort Townsend, W. T., to Fort Niagara, N. Y. S. O. 206, A. G. O., Sept 5, 1888.

Assistant Surgeon M. M. Walker, relieved from temporary duty at Benicia Barracks, to return to his station, the Presidio of San Francisco. S. O. 60, Dept. of California, Sept. 7, 1888.

Capt. John M. Banister, Assistant Surgeon, granted two months leave of absence, with permission to apply for an extension of one month, to take effect when his services can be spared- S. O. 211, A. G. O., Sept. 10, 1888.

Lieut. Col. Richard H. Alexander, Surgeon, detailed a member of Board to meet at San Carlos, A. T., August 28th, to select a site for a new post at that place. S. O. 44, Div. Pacific, Aug, 15, 1888.

Assistant Surgeon Leonard Y. Loring, granted leave of absence for one month. S. O. 97, Dept. of Arizona, Aug. 23, 1888.

Capt. Marcus E. Taylor, Assistant Surgeon, granted leave of absence for four months, to take effect about Oct. 15, 1888. S. O. 196, A. G. O., Aug. 24, 1888.

Assistant Surgeon Eugene L. Swift, upon being relieved from temporary duty at Fort Klamath, Oregon, to return to his proper station—Fort Spokane, W. T. S. O. 196, A. G. O., Aug. 24, 1888.

Official List of Changes in the Medical Corps. U S. Navy (Pacific Station), from Aug, 20th to Sept. 20th, 1888.

Passed Assistant Surgeon F. J. B. Cordeiro, reported for duty on board U. S. S. "Mohican," Sept. 6, 1888, at Mare Island, Cal.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine Hospital Service (Division of the Pacific) for the four weeks ended Sept. 20, 1888.

Surgeon H. W. Sawtelle directed to proceed to San Diego, Cal., and inspect service at that station. Detailed as Recorder of Board to select site for Quarantine Station at San Francisco.

Passed Assistant Surgeon Bratton, relieved from duty as Medical Officor on U. S. Revenue Steamer "Bear," ordered to report for duty at U. S. Marine Hospital, San Francisco.

Passed Assistant Surgeon P. C. Kalloch, leave of absence for one week.